

09/8357523

9/811,359

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* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 JAN 27 Source of Registration (SR) information in REGISTRY updated
and searchable
NEWS 4 JAN 27 A new search aid, the Company Name Thesaurus, available in
CA/CAplus
NEWS 5 FEB 05 German (DE) application and patent publication number format
changes
NEWS 6 MAR 03 MEDLINE and LMEADLINE reloaded
NEWS 7 MAR 03 MEDLINE file segment of TOXCENTER reloaded
NEWS 8 MAR 03 FRANCEPAT now available on STN
NEWS 9 MAR 29 Pharmaceutical Substances (PS) now available on STN
NEWS 10 MAR 29 WPIFV now available on STN
NEWS 11 MAR 29 No connect hour charges in WPIFV until May 1, 2004
NEWS 12 MAR 29 New monthly current-awareness alert (SDI) frequency in RAPRA
NEWS 13 APR 26 PROMT: New display field available
NEWS 14 APR 26 IFIPAT/IFIUDB/IFICDB: New super search and display field
available
NEWS 15 APR 26 LITALERT now available on STN
NEWS 16 APR 27 NLDB: New search and display fields available

NEWS EXPRESS MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
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NEWS WWW CAS World Wide Web Site (general information)

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 11:13:22 ON 04 MAY 2004

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

9/811,359

09/835,523

| | ENTRY | SESSION |
|---------------------|-------|---------|
| FULL ESTIMATED COST | 0.21 | 0.21 |

FILE 'REGISTRY' ENTERED AT 11:13:35 ON 04 MAY 2004
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STRUCTURE FILE UPDATES: 2 MAY 2004 HIGHEST RN 678693-82-8
 DICTIONARY FILE UPDATES: 2 MAY 2004 HIGHEST RN 678693-82-8

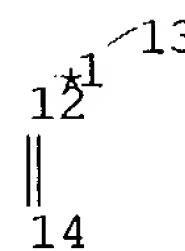
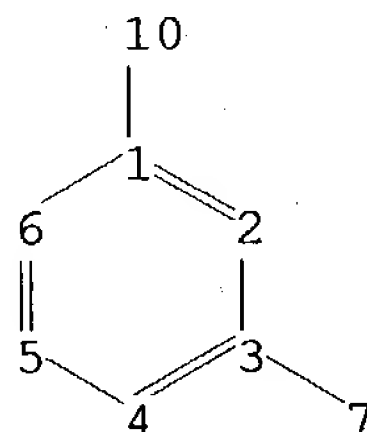
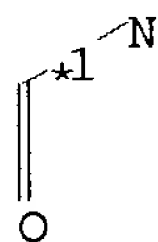
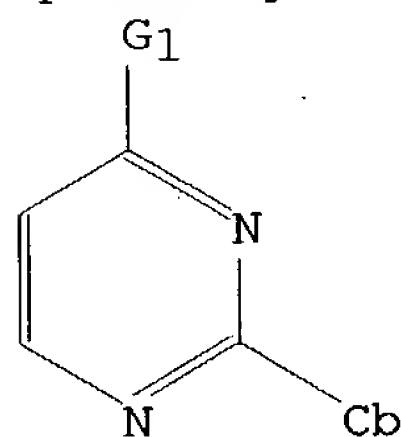
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>
 Uploading C:\STNEXP4\QUERIES\09811359.str



chain nodes :
 7 10 12 13 14
 ring nodes :
 1 2 3 4 5 6
 chain bonds :
 1-10 3-7 12-13 12-14
 ring bonds :
 1-2 1-6 2-3 3-4 4-5 5-6
 exact/norm bonds :
 1-10 12-13 12-14
 exact bonds :
 3-7
 normalized bonds :
 1-2 1-6 2-3 3-4 4-5 5-6
 isolated ring systems :
 containing 1 :

G1:C,H,O,S,Cb,Ak,CN,SO2,NO2,[*1]

Hydrogen count :
 6:= exact 0
 Match level :
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 10:CLASS 12:CLASS 13:CLASS
 14:CLASS

9/811,359

09/835,523

Generic attributes :

7:

Saturation : Unsaturated

Element Count :

Node 7: Limited

C,C6-10

L1 STRUCTURE UPLOADED

=> d his

(FILE 'HOME' ENTERED AT 11:13:22 ON 04 MAY 2004)

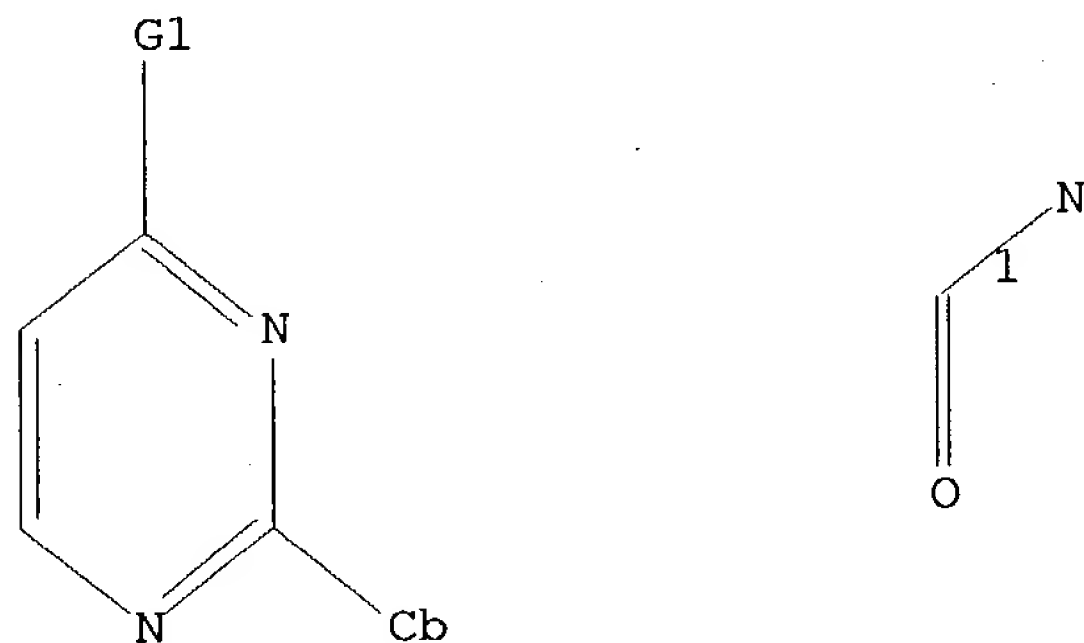
FILE 'REGISTRY' ENTERED AT 11:13:35 ON 04 MAY 2004

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 C,H,O,S,Cb,Ak,CN,SO2,NO2,[@1]

Structure attributes must be viewed using STN Express query preparation.

=> s l1 ful

FULL SEARCH INITIATED 11:14:40 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 697152 TO ITERATE

57.4% PROCESSED 400000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.11

9028 ANSWERS

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **INCOMPLETE**
PROJECTED ITERATIONS: 697152 TO 697152
PROJECTED ANSWERS: 15358 TO 16110

L2 9028 SEA SSS FUL L1 (

=> s l2 not (dichloro or difluoro or dibromo or diiodo)
807987 DICHLORO

9/811, 359

09/ 835,523

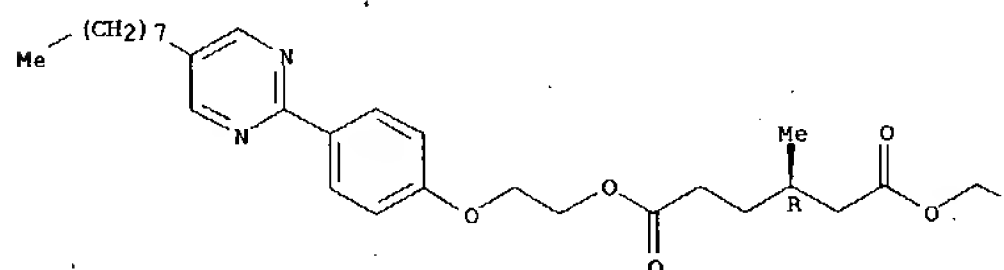
L9 ANSWER 1 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:613770 CAPLUS
 DOCUMENT NUMBER: 135:337176
 TITLE: Novel chirality-dependent phenomena in smectic liquid crystals
 AUTHOR(S): Yoshizawa, Atsushi
 CORPORATE SOURCE: Central R&D Laboratory, Japan Energy Corporation, Saitama, 335-8502, Japan
 SOURCE: Recent Research Developments in Applied Physics (1999), 2(Pt. 2), 453-477
 CODEN: RDAPFM
 PUBLISHER: Transworld Research Network
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Since the discovery of ferroelectricity in a chiral smectic C (SmC*) phase, chirality-dependent properties of the mesophase were studied and various kinds of application devices of ferroelec. liquid crystals developed. Although macroscopic theories are useful in the explanation of the phys. properties of the chiral smectic phase, they do not open the door to the understanding of the microscopic state. Thus, a number of important phenomena are still not understood. The authors present a microscopic organization model of the mols. in the chiral smectic phase based on C-13 NMR studies. Understanding about the formation of helical macrostructures of the mesophase allows the authors to design chiral twin material possessing strong twisting power in the SmC* phase. Also unusual endothermic transition to an optically isotropic phase occurs in a newly prepared double chiral material. The presented approach can lead to discover novel chiral effect in smectic liquid crystals.

IT 165279-13-0
 RL: PRP (Properties)
 (chiral effect on helical pitches of doped smectic liquid crystals studied by C-13 NMR)
 RN 165279-13-0 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[2-[4-(5-octyl-2-pyrimidinyl)phenoxy]ethyl] ester, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

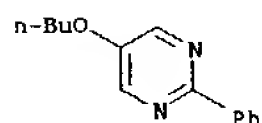
PAGE 1-A



L9 ANSWER 2 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2000:479341 CAPLUS
 DOCUMENT NUMBER: 133:150113
 TITLE: Variation of dipole moment with softness parameter of liquid crystalline materials
 AUTHOR(S): Srivastava, Rajiv Ranjan; Singh, Kalyan
 CORPORATE SOURCE: Department of Physics, M.L.K. (PG) College, Balrampur, 271 201, India
 SOURCE: Acta Ciencia Indica, Physics (1999), 25(4), 197-199
 CODEN: ACIPD2; ISSN: 0253-732X
 PUBLISHER: Pragati Prakashan
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The softness parameter of liquid crystalline materials were calculated. However, the dipole moment of liquid crystalline materials were taken. A comparative study was made between the calculated softness values and dipole moments of liquid crystalline materials and the variation between softness parameter and dipole moment was given.

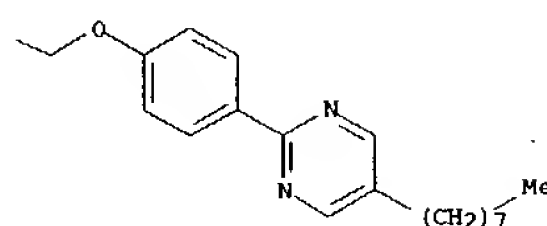
IT 287104-17-0D, derivs.
 RL: PRP (Properties).
 (variation of dipole moment with softness parameter of liquid crystalline materials)
 RN 287104-17-0 CAPLUS
 CN Pyrimidine, 5-butoxy-2-phenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 1 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B

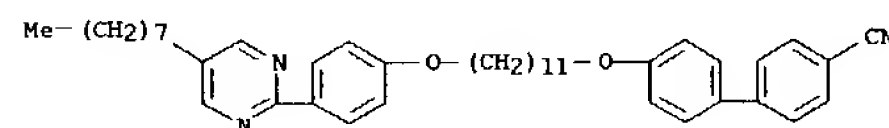


REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2000:269351 CAPLUS
 DOCUMENT NUMBER: 132:316108
 TITLE: Physical properties of non-symmetric dimeric liquid crystals
 AUTHOR(S): Yoshizawa, Atsushi; Ise, Noriko; Okada, Tomomi
 CORPORATE SOURCE: Central Research Laboratory, Japan Energy Corporation, Saitama, 335, Japan
 SOURCE: Ferroelectrics (1998), 214(1-2), 749-756
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A homologous series of novel nonsym. dimeric liquid crystals, α -(4-(4-cyanobiphenyl-4'-yloxy)- α -[4-(5-octylpyrimidine-2-yl)phenyl-4"-oxy]alkane, was prepared and the phys. properties studied. C-13 NMR measurements revealed the relation between intermol. interactions and phase transition behavior for the dimeric liquid crystal.

IT 213549-33-8P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and liquid crystal properties of)
 RN 213549-33-8 CAPLUS
 CN [1,1'-Biphenyl]-4-carbonitrile, 4'-[11-[4-(5-octyl-2-pyrimidinyl)phenoxy]undecyl]oxy]- (9CI) (CA INDEX NAME)



9/811, 359

~~09/835,523~~

L9 ANSWER 4 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:269350 CAPLUS

DOCUMENT NUMBER: 132:355422

TITLE: Amplification of the twisting power by modification of the chiral spacer in a smectic liquid-crystalline phase

AUTHOR(S): Yoshizawa, Atsushi

CORPORATE SOURCE: Central Research Laboratory, Japan Energy Corporation, Saitama, 335-8502, Japan

SOURCE: Ferroelectrics (1998), 214(1-2), 741-748

CODEN: FEROA8; ISSN: 0015-0193

PUBLISHER: Gordon & Breach Science Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We investigated twisting power of chiral twin mols., (S)-2-methylnonanedioic acid bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester (MNB-8-PYP) and (S)-2-methyldecanedioic acid bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester (MDB-8-PYP), in N* and SmC* phases. The inverse of the SmC* pitch induced by MDB-8-PYP was found to vary non-linearly as a function of changing concentration, indicating cooperative twisting mechanism for MDB-8-PYP which induces stronger helical structure than MNB-8-PYP.

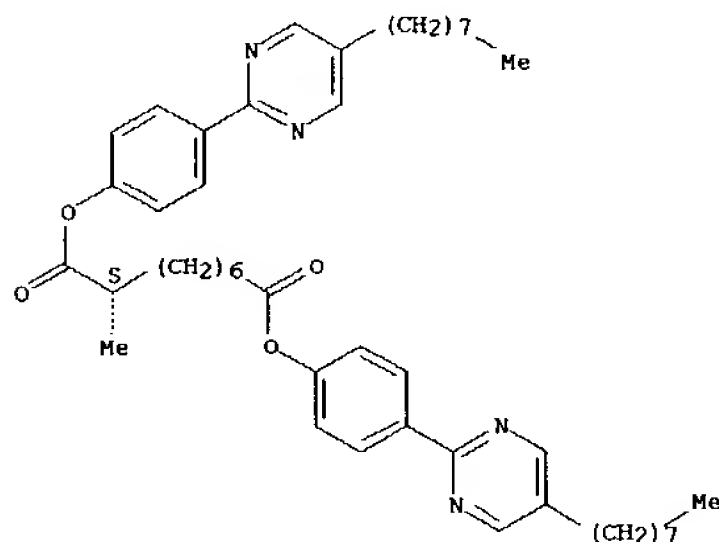
IT 173322-09-3

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(smectic liquid crystal; amplification of twisting power by modification of chiral spacer in a smectic liquid-crystalline phase)

RN 173322-09-3 CAPLUS

CN Nonanedioic acid, 2-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

(Continued)

L9 ANSWER 5 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:269348 CAPLUS

DOCUMENT NUMBER: 132:355420

TITLE: Sign inversion of spontaneous polarization in ferroelectric liquid crystal mixtures

AUTHOR(S): Ozaki, Masanori; Fuwa, Yoshiaki; Nakayama, Keizo; Yoshino, Katsumi; Tani, Takeshi; Fujisawa, Koichi

CORPORATE SOURCE: Department of Electronic Engineering, Faculty of Engineering, Osaka University, Suita, 565, Japan

SOURCE: Ferroelectrics (1998), 214(1-2), 725-732

CODEN: FEROA8; ISSN: 0015-0193

PUBLISHER: Gordon & Breach Science Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Sign inversion of spontaneous polarization (Ps) has been studied in two types of mixture systems of ferroelec. liquid crystal (FLC). One is a binary mixture of chiral (ferroelec.) and achiral SmC liquid crystals. Although the pure FLC has a relatively large Ps and shows no anomaly in the sign of Ps, the magnitude of Ps exponentially decreases upon doping with achiral compound. Particularly, in the mixture highly doped with achiral compound, which shows extremely small Ps, the sign of Ps is inverted upon changing temperature. In this case, the inversion temperature is very sensitive to the concentration of achiral dopant. Another system is a mixture of two FLCs having opposite signs of Ps. In this mixture, the sign inversion has been observed with temperature

in the concentration range in which Ps is suppressed.

IT 173211-33-1

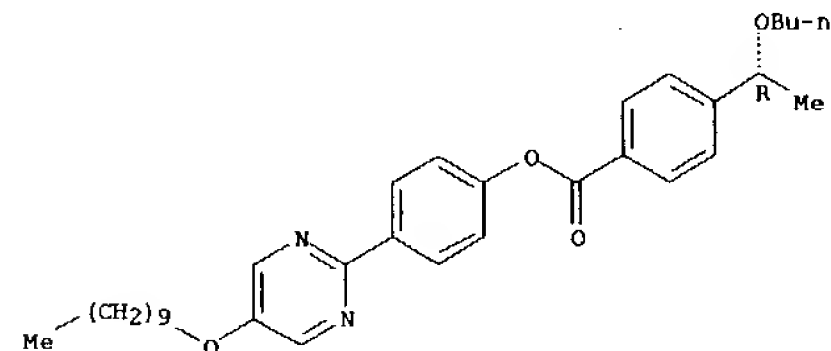
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(achiral ferroelec. liquid crystal; sign inversion of spontaneous polarization in ferroelec. liquid crystal mixts.)

RN 173211-33-1 CAPLUS

CN Benzoic acid, 4-(1-butoxyethyl)-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:137709 CAPLUS

DOCUMENT NUMBER: 132:190848

TITLE: Safened Propizochlor herbicidal compositions

INVENTOR(S): Sebestyen, Endre; Pelyva, Jeno; Szabo, Geza; Balint, Sandor; Soepstei, Csaba; Szudy, Gabor

PATENT ASSIGNEE(S): Nitrokemia Rt., Hung.

SOURCE: S. African, 32 pp.

CODEN: SFXKAB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| ZA 9802663 | A | 19980930 | ZA 1998-2663 | 19980330 |
| PRIORITY APPLN. INFO.: | | | ZA 1998-2663 | 19980330 |

OTHER SOURCE(S): MARPAT 132:190848

AB A safened composition is given for preemergent and early postemergent selective eradication of mono- or dicotyledonous weeds in corn, sunflower, soybean, pea, bean, horse bean, cotton, sugar beet and rice. The composition comprises 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(1-methylethoxymethyl)acetamide (Propizochlor) and as antidote a dichloroacetamide derivative

IT 259728-18-2

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(safened herbicidal composition)

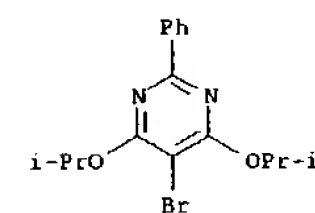
RN 259728-18-2 CAPLUS

CN Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-[(1-methylethoxy)methyl]-, mixt. with 5-bromo-4,6-bis(1-methylethoxy)-2-phenylpyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 259728-17-1

CMF C16 H19 Br N2 O2



CM 2

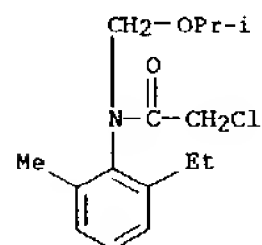
CRN 86763-47-5

CMF C15 H22 Cl N O2

9/811, 359

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L9 ANSWER 6 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 7 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:15333 CAPLUS
 DOCUMENT NUMBER: 132:288574
 TITLE: Hepatic ischemia/reperfusion injury and endothelin: determination of receptor-mediated responses and hemodynamic effects
 AUTHOR(S): Wilhelm, Scott M.; Stowe, Nicholas T.; Robinson, Ann V.; Schulak, James A.
 CORPORATE SOURCE: Department of Surgery, Case Western Reserve University and University Hospitals of Cleveland, Cleveland, OH, USA
 SOURCE: Surgical Forum (1999), 50, 387-389
 CODEN: SUFOAX; ISSN: 0071-8041
 PUBLISHER: American College of Surgeons
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB In a rat model of hepatic ischemia/reperfusion (I/R) injury, combined endothelin (ET) receptor antagonism by Ro 61-1790 (a specific ETA receptor antagonist) and Ro 46-8443 (a specific ETB receptor antagonist) ameliorated hepatocellular injury; however, only ETB receptor blockade appeared necessary to inhibit this pathophysiol. process. Furthermore, ETA+B receptor blockade improved hepatic blood flow (HBP) a I/R injury by decreasing hepatic vascular resistance (HVR). Thus ET receptor antagonists, particularly ETB, may reduce the impact of I/R injury on liver transplantation.

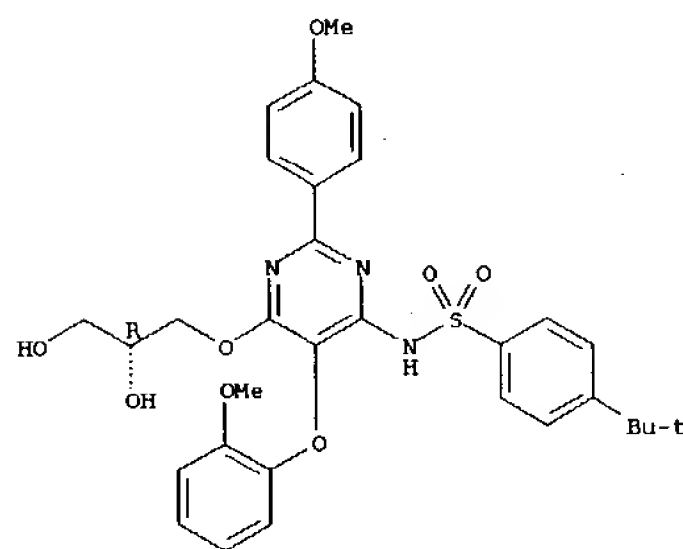
IT 175556-12-4, Ro 46-8443
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (effect of endothelin receptor antagonists on hepatic ischemia/reperfusion injury)

RN 175556-12-4 CAPLUS

CN Benzenesulfonamide, N-[6-[(2R)-2,3-dihydroxypropoxy]-5-(2-methoxyphenoxy)-2-(4-methoxyphenyl)-4-pyrimidinyl]-4-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 7 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:11099 CAPLUS
 DOCUMENT NUMBER: 132:137044
 TITLE: Benzylic cleavage and McLafferty rearrangement under electron ionization conditions in the fragmentation of 5,6-dialkyl-2,4-diarylpyrimidines
 AUTHOR(S): Alvarez, R. Martinez; Fernandez, A. Herrera; Chioua, M.; Perez, P. Ramiro; Vilchez, N. Villalba; Torres, F. Guzman
 CORPORATE SOURCE: Departamento de Quimica Organica I, Facultad de Ciencias Quimicas, Universidad Complutense de Madrid, Madrid, E-28040, Spain
 SOURCE: Rapid Communications in Mass Spectrometry (1999), 13(24), 2480-2488
 CODEN: RCMSEF; ISSN: 0951-4198
 PUBLISHER: John Wiley & Sons Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

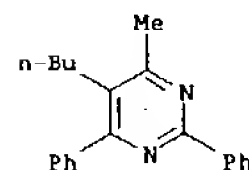
AB Several 5,6-dialkyl-2,4-diarylpyrimidines were prepared and their electron ionization (EI) mass spectra reported. The benzylic cleavage takes place easily together with an important McLafferty rearrangement. The involvement of the nitrogen atom appears to be important in the fragmentation of 5-methyl-substituted pyrimidines. In contrast, the 6-methyl-substituted pyrimidines undergo benzylic cleavage without hydrogen transfer. Thus, the difference in the mass spectrometric behavior allows the identification of these isomeric compds. which, in contrast, exhibit only small differences in their NMR spectra.

IT 177498-33-8P
 RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(benzylic cleavage and McLafferty rearrangement under electron ionization conditions in the fragmentation of regioisomeric 5,6-dialkyl-2,4-diarylpyrimidines)

RN 177498-33-8 CAPLUS

CN Pyrimidine, 5-butyl-4-methyl-2,6-diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

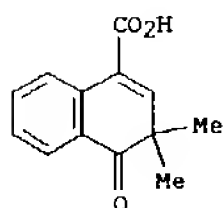
09/ 835,523

9/811, 359

L9 ANSWER 9 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:777595 CAPLUS
 DOCUMENT NUMBER: 132:92932
 TITLE: Linearly conjugated benzocyclohexadienone photochemistry in the solid state: ionic chiral auxiliary mediated asymmetric induction
 AUTHOR(S): Cheung, Eugene; Netherton, Matthew R.; Scheffer, John R.; Trotter, James
 CORPORATE SOURCE: Department of Chemistry, University of British Columbia, Vancouver, BC, V6T 1Z1, Can.
 SOURCE: Tetrahedron Letters (1999), 40(50), 8737-8740
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 132:92932
 AB Asym. induction in the photochem. of a linearly conjugated benzocyclohexadienone derivative has been achieved for the first time through the use of the solid state ionic chiral auxiliary method. Enantiomeric excesses as high as 70-80% at reasonable conversions are readily attainable. Crystal structures for both reactant and product are reported.
 IT 254981-78-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (poor asym. induction; ionic chiral auxiliary mediated asym. induction in the oxadi- π -methane photorearrangement of a linearly conjugated benzocyclohexadienone in the solid state)
 RN 254981-78-7 CAPLUS
 CN Cinchonon, 9,9''-[(2,5-diphenyl-4,6-pyrimidinediyl)bis(oxy)]bis[10,11-dihydro-6'-methoxy-, (9S,9''S)-, bis(3,4-dihydro-3,3-dimethyl-4-oxo-1-naphthalenecarboxylate) (9CI) (CA INDEX NAME)

CM 1

CRN 254981-73-2
 CMF C13 H12 O3

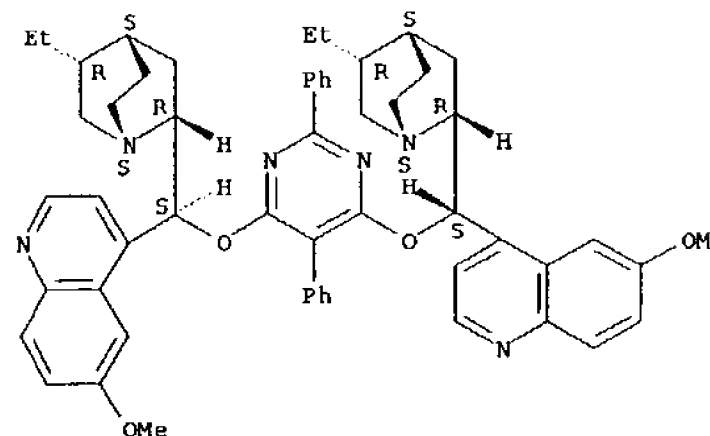


CM 2

CRN 149725-81-5
 CMF C56 H60 N6 O4

Absolute stereochemistry.

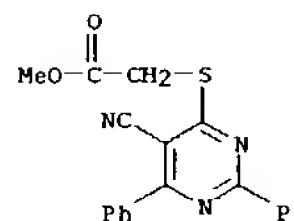
L9 ANSWER 9 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



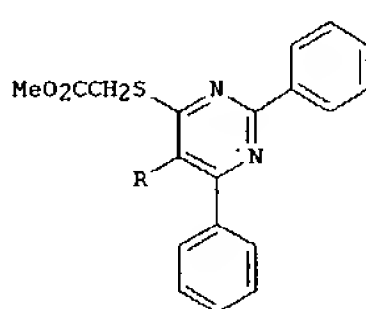
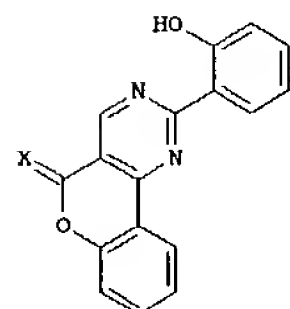
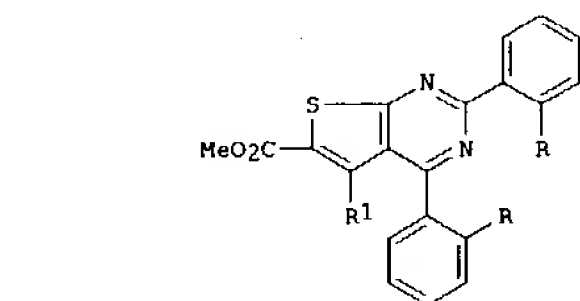
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 10 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:777050 CAPLUS
 DOCUMENT NUMBER: 132:137349
 TITLE: Intramolecular ANRORC reaction of pyrano[4,3-d]pyrimidines, a new method for the synthesis of thieno[2,3-d]pyrimidines
 AUTHOR(S): Briel, D.
 CORPORATE SOURCE: Institut für Pharmazie, Fakultät für Biowissenschaften, Pharmazie und Psychologie, Universität Leipzig, Germany
 SOURCE: Pharmazie (1999), 54(11), 858-861
 CODEN: PHARAT; ISSN: 0031-7144
 Govi-Verlag Pharmazeutischer Verlag
 PUBLISHER: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 132:137349
 GI

L9 ANSWER 10 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

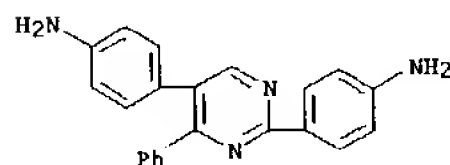


AB Thieno[2,3-d]pyrimidines I (R = H, OH; R1 = OH, NH2) were prepared by intramol. ANRORC reaction (nucleophilic addition, ring opening, and ring closure) of pyrano[4,3-d]pyrimidines II (X = NH, O) or by Thorpe-Dieckmann cyclization of pyrimidines III (R = CN, CO2Me).
 IT 256932-22-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of thieno[2,3-d]pyrimidines)
 RN 256932-22-6 CAPLUS
 CN Acetic acid, [(5-cyano-2,6-diphenyl-4-pyrimidinyl)thio]-, methyl ester (9CI) (CA INDEX NAME)

09/ 835,523

9/ 811, 359

L9 ANSWER 11 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:761854 CAPLUS
 DOCUMENT NUMBER: 132:94590
 TITLE: Heat-resistant homo- and copolyimides based on pyrimidine
 AUTHOR(S): Sazanov, Yu. N.; Artem'eva, V. N.; Mikhailov, G. M.; Gribanov, A. V.; Beloborodova, E. V.; Lebedeva, M. F.; Fedorova, G. N.
 CORPORATE SOURCE: Inst. Vysokomolekulyarnykh Soedinenii, RAN, St. Petersburg, Russia
 SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg) (1999), 72(6), 975-982
 CODEN: ZPKHAB; ISSN: 0044-4618
 PUBLISHER: Nauka
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Thermal, structural, and mech. characteristic of films and fibers based on polyimides and polyether-polyimides containing prepared from dianhydrides and various 2,5- and 2,4-pyrimidine diamines were studied. The effect of structure on thermal stability and mech. strength of polymers was determined. A mechanism of polymerization of was suggested taking into consideration maximum interchain interactions of chains with various packings.
 IT 254449-54-2, Biphenyltetracarboxylic dianhydride-4-phenyl-2,5-bis(p-aminophenylpyrimidine) copolymer
 RL: PRP (Properties)
 (fiber; the effect of structure on heat resistance of pyrimidine-based polyimides)
 RN 254449-54-2 CAPLUS
 CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 4,4'-(4-phenyl-2,5-pyrimidinediyl)bis[benzenamine] (9CI) (CA INDEX NAME)
 CM 1
 CRN 254449-53-1
 CMF C22 H18 N4

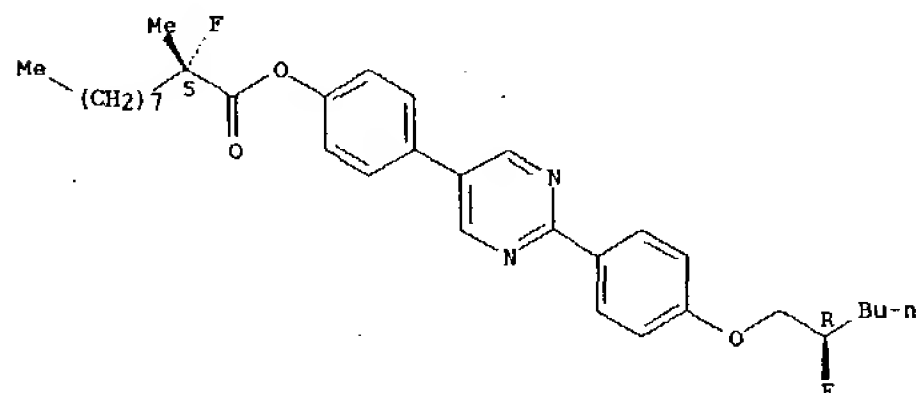


CM 2
 CRN 2420-87-3
 CMF C16 H6 O6

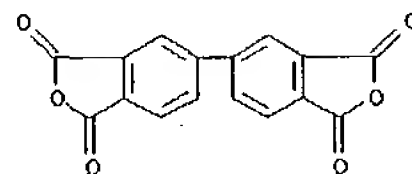
L9 ANSWER 12 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:761839 CAPLUS
 DOCUMENT NUMBER: 132:17191
 TITLE: Rewritable recording media containing stereoisomeric liquid crystal compounds and information recording and erasing method
 INVENTOR(S): Kusumoto, Akio; Hiyama, Tamejiro; Yoshizawa, Atsushi; Ise, Noriko
 PATENT ASSIGNEE(S): Japan Energy K. K., Japan; Sagami Chemical Research Center
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 11323336 | A2 | 19991126 | JP 1998-133430 | 19980515 |
| PRIORITY APPLN. INFO.: | | | JP 1998-133430 | 19980515 |

 AB The media contain ≥ 2 of asym. C-containing two kinds of optically active stereoisomeric liquid crystals having different absolute configuration at a (3:4:1-2) ratio. The media are useful for recording and erasing information by heat treatment. The crystals have two phases with different phys. properties in a certain temperature range, so that information can be rewritable by heat treatment.
 IT 213131-58-9P
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (rewritable recording media containing stereoisomer-containing liquid crystal composition)
 RN 213131-58-9 CAPLUS
 CN Decanoic acid, 2-fluoro-2-methyl-, 4-[2-[4-[[[(2R)-2-fluorohexyl]oxy]phenyl]-5-pyrimidinyl]phenyl ester, (2S)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.



L9 ANSWER 11 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

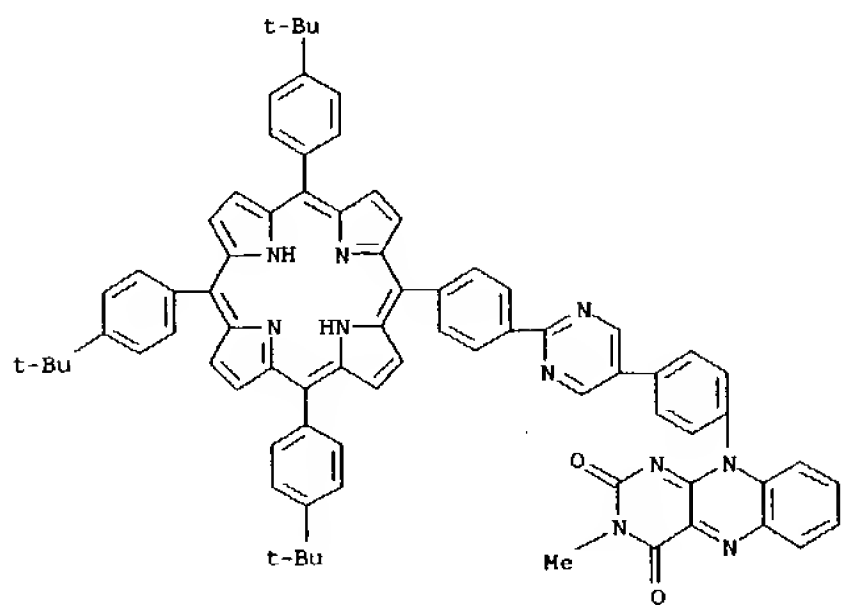


L9 ANSWER 13 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:735299 CAPLUS
 DOCUMENT NUMBER: 132:78397
 TITLE: Synthesis, spectroscopy, and semiempirical study of a novel porphyrin-flavin dyad
 AUTHOR(S): Hermann, Dominik T.; Schindler, Anne Christina; Polborn, Kurt; Gompper, Rudolf; Stark, Susanne; Parusel, Andreas B. J.; Grabner, Gottfried; Kohler, Gottfried
 CORPORATE SOURCE: Institut fur Organische Chemie, Universitat Munchen, Munchen, D-81377, Germany
 SOURCE: Chemistry--A European Journal (1999), 5(11), 3208-3220
 CODEN: CEUJED; ISSN: 0947-6539
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A new synthetic methodol. for the preparation of donor-bridge-acceptor compds. incorporating a porphyrin donor and an all-aromatic oligo(diazaphenylene) bridge is introduced. This approach allows the controlled preparation of photosynthetic model compds. with well-defined spacer structure and properties. The synthesis of the porphyrin-flavin dyads is described to exemplify the strategy. This type of structure has a number of interesting spectroscopic and photophys. properties. The aromatic bridge results in a well-defined donor-acceptor distance; it can favor conjugation and at the same time be nonabsorbing in the visible and near-UV range. The choice of a flavin as the acceptor unit opens the way to a spectroscopic study by excitation of the acceptor in addition to the usual porphyrin donor excitation. Based on these premises, a spectroscopic, photophys. and semiempirical study of one dyad has been performed in three solvents of varying polarity. The results demonstrate energy transfer from flavin to porphyrin with unit efficiency at high solvent polarity. In solvents of medium polarity an addnl. internal conversion pathway is opened following excitation of the flavin moiety. Spectroscopic, cyclovoltammetric, and semiempirical results all suggest that this pathway involves the intermediate population of a short-lived charge-separated state.
 IT 253868-73-4P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis, spectroscopy, and semiempirical study of a novel porphyrin-flavin dyad)
 RN 253868-73-4 CAPLUS
 CN Benzo[g]pteridine-2,4(3H,10H)-dione, 3-methyl-10-[4-[2-[4-[10,15,20-tris(4-(1,1-dimethylethyl)phenyl)-21H,23H-porphin-5-yl]phenyl]-5-pyrimidinyl]phenyl]- (9CI) (CA INDEX NAME)

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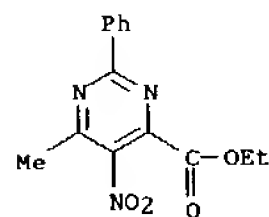
L9 ANSWER 13 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



REFERENCE COUNT: 91 THERE ARE 91 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 14 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:719579 CAPLUS
 DOCUMENT NUMBER: 132:78521
 TITLE: Transformations of methyl(phenyl)-substituted 1,4-dihydro-4-pyrimidinylidenemalononitriles under the action of nitric acid
 AUTHOR(S): Oleinik, I. V.; Shkurko, O. P.
 CORPORATE SOURCE: Novosibirsk Institute of Organic Chemistry of the Siberian Division of the Russian Academy of Sciences, Novosibirsk, 630090, Russia
 SOURCE: Chemistry of Heterocyclic Compounds (New York) (Translation of Khimiya Geterotsiklicheskh Soedinenii) (1999), 35(3), 316-318
 CODEN: CHCCAL; ISSN: 0009-3122
 PUBLISHER: Consultants Bureau
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 6-Phenyl-, 2-methyl-6-phenyl-, and 2,6-diphenyl-4-pyrimidinylidenemalononitrile in acetic acid react with HNO₃ to form the corresponding 4-ethoxycarbonylpyrimidines in high yields after treatment of the intermediate product with ethanol. Under the same conditions 6-methyl-2-phenyl-4-pyrimidinylidenemalononitrile yields 6-methyl-5-nitro-4-ethoxycarbonylpyrimidine whereas 2-phenyl-4-pyrimidinylidenemalononitrile gives a mixture of 2-phenyl-4-ethoxycarbonyl- and 5-nitro-2-phenyl-4-ethoxycarbonylpyrimidine.
 IT 253769-49-2P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 253769-49-2 CAPLUS
 CN 4-Pyrimidinecarboxylic acid, 6-methyl-5-nitro-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

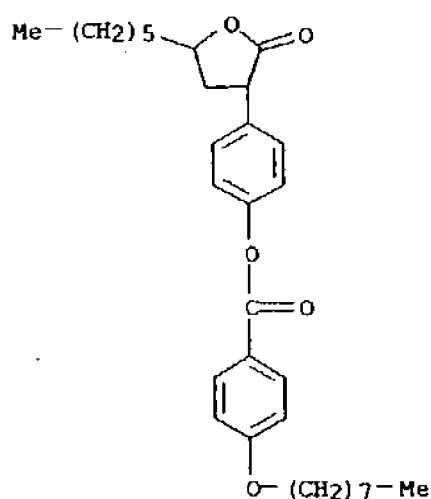
L9 ANSWER 15 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:711873 CAPLUS
 DOCUMENT NUMBER: 132:86202
 TITLE: Syntheses and Properties of Novel Liquid Crystals Containing a Trifluoromethylamino Group
 AUTHOR(S): Kanie, Kiyoshi; Mizuno, Katsuya; Kuroboshi, Manabu; Takehara, Sadao; Hiyama, Tamejiro
 CORPORATE SOURCE: Res. Lab. of Resources Utilization, Tokyo Institute of Technology, Yokohama, Kanagawa, 226-8503, Japan
 SOURCE: Bulletin of the Chemical Society of Japan (1999), 72(11), 2523-2535
 CODEN: BCSJAB; ISSN: 0009-2673
 PUBLISHER: Chemical Society of Japan
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Liquid crystals (LCs) containing a trifluoromethylamino group are prepared by the cross-coupling reaction of p-bromo-substituted-(hetero)aryl(trifluoromethyl)amines that are derived from the corresponding dithiocarbamates through oxidative desulfurization-fluorination. The novel LCs are shown to exhibit mainly a smectic phase over a wide range of temps. Their electrooptical properties as a component of nematic LCs are compared with those of the corresponding methylamines.

IT 174793-89-6
 RL: PRP (Properties) (properties of ferroelec. liquid crystal mixture doped with liquid crystals containing trifluoromethylamino group)
 RN 174793-89-6 CAPLUS
 CN Benzoic acid, 4-(octyloxy)-, 4-(5-hexyltetrahydro-2-oxo-3-furanyl)phenyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, N-methyl-5-[4-(octyloxy)phenyl]-N-(trifluoromethyl)-2-pyridinamine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

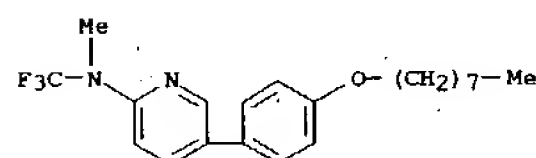
CRN 174793-88-5
 CMF C31 H42 O5



L9 ANSWER 15 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

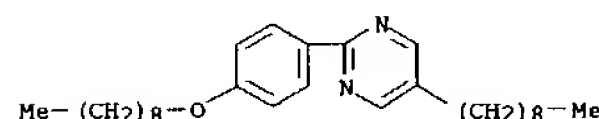
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CRN 161694-94-6
 CMF C21 H27 F3 N2 O



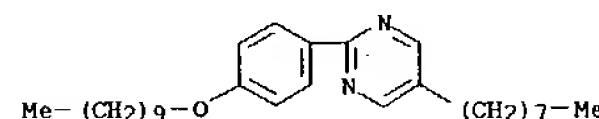
CM 3

CRN 99895-85-9
 CMF C28 H44 N2 O



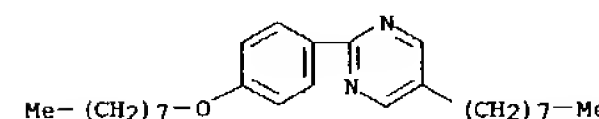
CM 4

CRN 57202-52-5
 CMF C28 H44 N2 O



CM 5

CRN 57202-50-3
 CMF C26 H40 N2 O



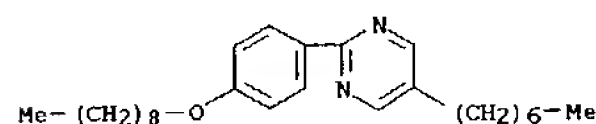
CM 6

CRN 57202-40-1
 CMF C26 H40 N2 O

9/811, 359

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L9 ANSWER 15 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

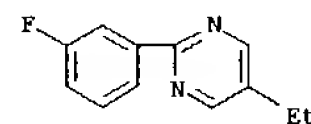


REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 16 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:698307 CAPLUS
DOCUMENT NUMBER: 131:315916
TITLE: Liquid-crystal displays with good bistability and high contrast
INVENTOR(S): Kobayashi, Nobuyuki; Ueda, Hideaki; Iwamatsu, Masako
PATENT ASSIGNEE(S): Minolta Camera Co., Ltd., Peop. Rep. China
SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 11302654 | A2 | 19991102 | JP 1998-106435 | 19980416 |
| PRIORITY APPLN. INFO.: | | | JP 1998-106435 | 19980416 |
| AB The displays contain cholesteric liquid-crystal compns. containing ≥55 weight% esters, pyrimidines, and/or tolan compds. and columnar structures of regularly arranged acrylic acid ester-based polymers between a pair of transparent substrates. The displays show good bistability and high contrast. | | | | |
| IT 247577-34-0D, mixts. containing | | | | |
| RL: DEV (Device component use); USES (Uses) | | | | |
| (cholesteric liquid-crystal displays with good bistability and high contrast) | | | | |
| RN 247577-34-0 CAPLUS | | | | |
| CN Pyrimidine, 5-ethyl-2-(3-fluorophenyl)- (9CI) (CA INDEX NAME) | | | | |



L9 ANSWER 17 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

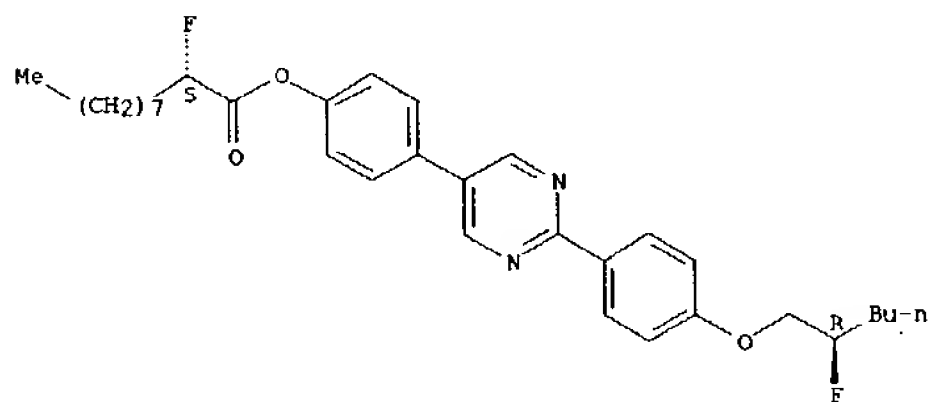
ACCESSION NUMBER: 1999:661560 CAPLUS
DOCUMENT NUMBER: 132:28983
TITLE: Molecular recognition of the dichiral liquid crystals containing fluorines
AUTHOR(S): Kusumoto, Tetsuo; Sato, Ken-Ichi; Katoh, Miho; Matsutani, Hiroshi; Yoshizawa, Atsushi; Ise, Noriko; Umezawa, Junko; Takanishi, Yoichi; Takezoe, Hideo; Hiyama, Tamejiro
CORPORATE SOURCE: Sagami Chemical Research Center, Kanagawa, 229-0012, Japan
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1999), 330, 1471-1478
CODEN: MCLCE9; ISSN: 1058-725X
PUBLISHER: Gordon & Breach Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Novel dichiral liquid crystal compound 2-[4-((R)-2-fluorohexyloxy)phenyl]-5-[4-((S)-2-fluoro-2-methyldecanoyloxy)phenyl]pyrimidine ((R,S)-1) exhibits new optically isotropic phase (IsoX) with an endothermic transition enthalpy on cooling. In contrast, (S,S)-1 did not show the unusual transition. However, a 1:1 mixture of (S,S)-1 and (R,R)-1 exhibited IsoX phase. Probably the appearance of IsoX phase is attributed to a chirality-dependent mol. recognition.

IT 251919-73-0P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

RN 251919-73-0 CAPLUS
CN Decanoic acid, 2-fluoro-, 4-[2-[4-[[[(2R)-2-fluorohexyl]oxy]phenyl]-5-pyrimidinyl]phenyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 18 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:631124 CAPLUS
DOCUMENT NUMBER: 131:250750
TITLE: Preparation of optically active 1-phenyl-5-(4-hydroxyphenyl)pyrimidine 2-fluoro-2-methylalkanoic esters as liquid crystals
INVENTOR(S): Kusumoto, Tetsuo; Kato, Miho; Sato, Kenichi; Hiyama, Tamejiro; Yoshizawa, Atsushi; Ise, Noriko
PATENT ASSIGNEE(S): Sagami Chemical Research Center, Japan; Japan Energy K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 11269153 | A2 | 19991005 | JP 1998-88242 | 19980318 |
| PRIORITY APPLN. INFO.: | | | JP 1998-88242 | 19980318 |
| OTHER SOURCE(S): | | MARPAT 131:250750 | | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. (I; m = 1-16; n = 2-16; C* represent an optically active carbon atom) are prepared by condensation of the corresponding optically active phenols with 2-fluoro-2-methylalkanoic acid represented by formula HO2CC*FMe(CH2)mH (m, C* = same as above). These compds. are chemical stable and exhibit stable chiral smectic C phase at a broad temperature range around room temperature, large spontaneous polarization, low viscosity when added to a liquid crystal base, and high speed response and provides liquid crystal compns. which are useful for optoelectronics devices such as optical switching devices, display for liquid crystal TV, optical printer head, optical Fourier transformation device, and light bulb. Thus, 2-[4-((S)-3-fluorononyl)phenyl]-5-(4-hydroxyphenyl)pyrimidine (preparation given) was condensed with (S)-2-fluoro-2-methyldecanoic acid using DCC and 4-dimethylaminopyridine in CH2Cl2 at room temperature for 1 day to give the title compound (II) in 61% yield, which showed phase transition temperature (Cr 117° SmC* 125° and Iso) and spontaneous polarization of -820 nC/cm2 at 120° and 30 Vp-p (1 Hz triangular wave). A liquid crystal composition prepared by adding 5 weight% II to a liquid crystal composition containing four

2-(4-alkoxyphenyl)-5-alkylpyrimidines exhibited spontaneous polarization of -6.1 nC/cm2 at 25° and 28 Vp-p (100 Hz triangular wave) and response speed τ(0-90) of 62.5μs and tilt angle 19.1°.

IT 244244-92-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of optically active phenyl(hydroxyphenyl)pyrimidine fluoromethylalkanoic esters as chiral smectic C liquid crystals for electrooptical devices)

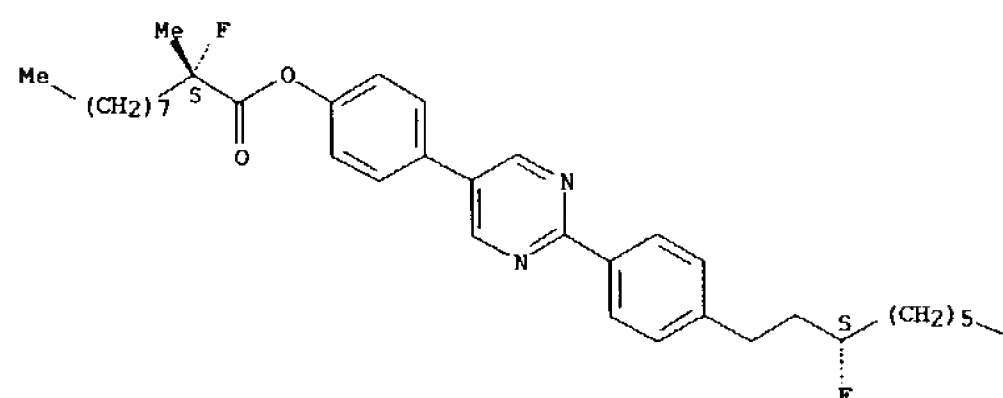
RN 244244-92-6 CAPLUS
CN Decanoic acid, 2-fluoro-2-methyl-, 4-[2-[4-[(3S)-3-fluorononyl]phenyl]-5-pyrimidinyl]phenyl ester, (2S)- (9CI) (CA INDEX NAME)

9/811,359

09/835,523

L9 ANSWER 18 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

Me

L9 ANSWER 19 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:610604 CAPLUS
DOCUMENT NUMBER: 131:235839
TITLE: Liquid crystal elements and colored liquid crystal elements
INVENTOR(S): Kuma, Hitoshi; Nagase, Takamitsu
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 11258579 | A2 | 19990924 | JP 1998-60227 | 19980311 |
| PRIORITY APPLN. INFO.: | | | JP 1998-60227 | 19980311 |

AB The liquid crystal element comprises a pair of substrates, one of which is transparent, and an in-between liquid crystal layer. The liquid crystal mols. are oriented in a direction parallel to the substrate, a macromol. material region is formed in the layer, and the liquid crystal composition satisfies $1/[\sqrt{(0.25/n_e^2 + 0.75/n_o^2)}] \leq n_p \leq 1/[\sqrt{(0.75/n_e^2 + 0.25/n_o^2)}]$, where n_o , n_e , and n_p are refractive index of the liquid crystal composition under ordinary ray, under extraordinary ray, and that of the macromol., resp. Color liquid crystal elements comprising tunable retardation plate, a laminated neutral sheet polarizer, and a color polarizer having a color selection polarization axis are also claimed. The tunable retardation plate has the structure of the above liquid crystal element. Light scattering due to difference in refractive index of the liquid crystal composition and the polymer is decreased.

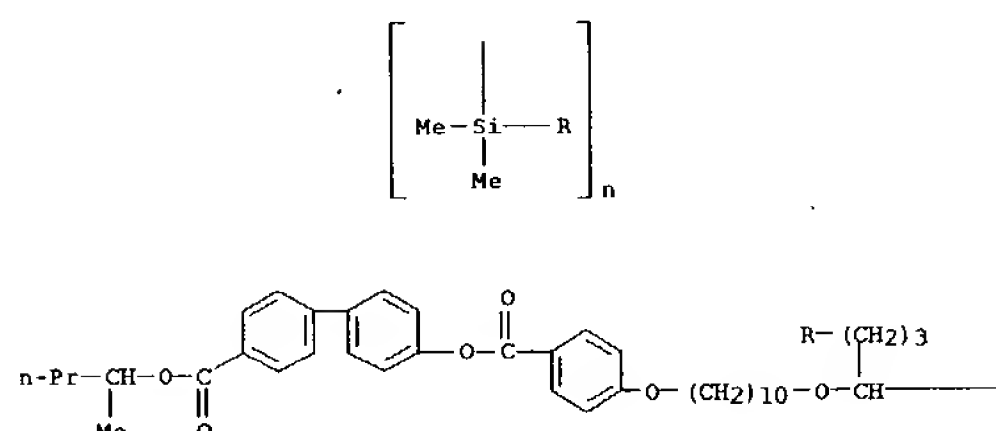
IT 183241-93-2
RL: DEV (Device component use); USES (Uses)
(liquid crystal composition; polymer-dispersed liquid crystal (color) displays comprising polymers and liquid crystal comps. with controlled refractive index)

RN 183241-93-2 CAPLUS
CN Butanoic acid, 3-methyl-, 8-[4-(5-decyl-2-pyrimidinyl)phenoxy]octyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and poly[oxy(dimethylsilylene)] [4-[[[10-[4-[[[4'-[(1-methylbutoxy)carbonyl][1,1'-biphenyl]-4-yl]oxy]carbonyl]phenoxy]decyl]oxy]-1,7-heptanediyl] (dimethylsilylene)] (9CI) (CA INDEX NAME)

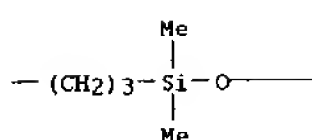
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CRN 155387-62-5
CMF (C46 H68 O7 Si2)n
CCI PMS

L9 ANSWER 19 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

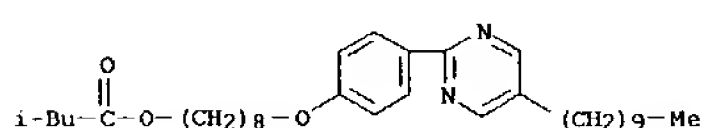
PAGE 1-A



PAGE 1-B

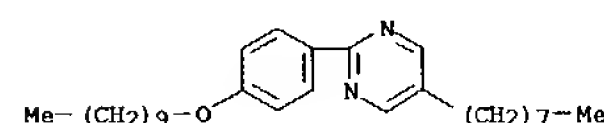


CM 2
CRN 155167-16-1
CMF C33 H52 N2 O3

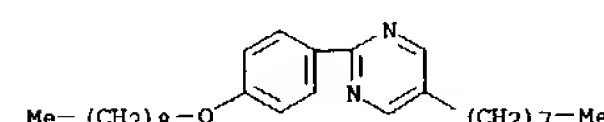


CM 3
CRN 57202-52-5

L9 ANSWER 19 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C28 H44 N2 O



CM 4
CRN 57202-51-4
CMF C27 H42 N2 O



9/811, 359

09/835,523

L9 ANSWER 20 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:602573 CAPLUS

DOCUMENT NUMBER: 131:311623

TITLE: Morphology, deformation and failure behaviour of homo- and copolyimide fibres 1. Fibres from 4,4'-oxybis(phthalic anhydride) (DPhO) and p-phenylenediamine (PPh) or/and 2,5-bis(4-aminophenyl)-pyrimidine (2,5PRM)

AUTHOR(S): Sukhanova, T. E.; Baklagina, Yu. G.; Kudryavtsev, V. V.; Maricheva, T. A.; Lednicky, F.

CORPORATE SOURCE: Institute of Macromolecular Compounds, Russian Academy of Sciences, St.-Petersburg, 199004, Russia

SOURCE: Polymer (1999), 40(23), 6265-6276

PUBLISHER: CODEN: POLMAG; ISSN: 0032-3861

DOCUMENT TYPE: Elsevier Science Ltd.

LANGUAGE: Journal

AB The morphol., deformation and failure behavior of new high-performance polyimide (PI) fibers were examined by SEM, wide angle X-ray diffraction (WAXD), and tensile measurements. PI fibers were prepared from rigid aromatic diamines p-phenylenediamine (PPh) and 2,5-bis(4-aminophenyl)pyrimidine (2,5PRM) and semi-rigid 4,4'-oxybis(phthalic anhydride) (DPhO) by wet-spinning of the N,N-dimethylacetamide solns. of their precursor poly(amic acids) in coagulation bath followed by thermal imidization at 400°C. The tensile properties and drawability of copolyimide (coPI) fibers were better than those of homopolyimides (homoPI). The improvement in fiber modulus and tensile strength of the coPI fibers can be explained by the microblock structure on the X-ray level and composed morphol. on the macro level. Moreover, changes in the supermol. structure and apparent fibril sizes, character of morphol., quantity of interfibrillar links, which affect the fracture mode were observed with the different composition of coPI.

IT 183873-27-0, 2,5-Bis(4-aminophenyl)pyrimidine-4,4'-oxydiphthalic anhydride-p-phenylenediamine copolymer

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(fiber; morphol., deformation and failure behavior of polyimide fiber from 4,4'-oxybis(phthalic anhydride) and p-phenylenediamine or/and 2,5-bis(4-aminophenyl)pyrimidine)

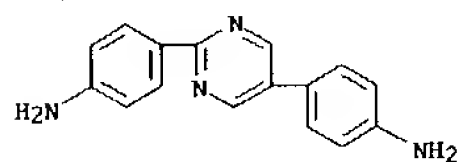
RN 183873-27-0 CAPLUS

CN 1,3-Isobenzofurandione, 5,5'-oxybis-, polymer with 1,4-benzenediamine and 4,4'-(2,5-pyrimidinediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 102570-64-9

CMF C16 H14 N4



L9 ANSWER 21 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:576911 CAPLUS

DOCUMENT NUMBER: 131:199705

TITLE: Preparation of heterocyclic anilides as herbicides

INVENTOR(S): Akiyama, Shigeaki; Kondo, Yasuo; Adachi, Michiaki; Mizukoshi, Takashi; Watanabe, Shigeomi; Akiyoshi, Chiaki; Ohki, Tooru; Nakahira, Kunimitsu

PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan

SOURCE: PCT Int. Appl., 256 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

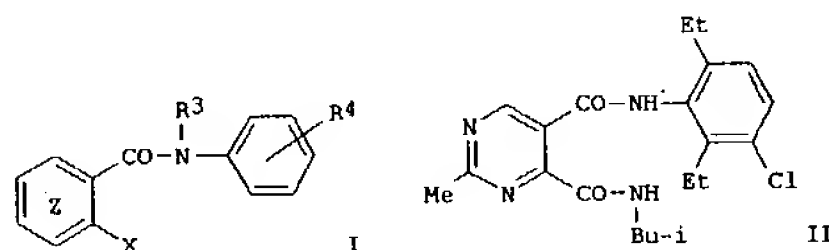
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9944992 | A1 | 19990910 | WO 1999-JP1048 | 19990304 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BE, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 9927458 | A1 | 19990920 | AU 1999-27458 | 19990304 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | JP 1998-53485 | 19980305 |
| | | | JP 1998-165661 | 19980612 |
| | | | JP 1998-268025 | 19980922 |
| | | | WO 1999-JP1048 | 19990304 |

OTHER SOURCE(S): MARPAT 131:199705

GI



AB The title compds. I [ring Z represents 3,4-substituted pyridine, pyrimidine, or pyrazine which are optionally substituted with alkyl, etc.; R3 represents H, Cl-6 alkyl, (substituted) phenylalkyl, etc.; R4 represents H, halogeno, nitro, cyano, Cl-6 alkyl, etc.; and X represents alkoxycarbonyl, alkylaminoaminocarbonyl, cyano, alkylcarbonyl, (substituted) oxadiazolyl, etc.] are prepared. The title compound II (at 2.5 g/are) gave ≥ 90% control of barnyard grass and caused no damage to rice plants.

IT 241468-58-6P

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of heterocyclic anilides as herbicides)

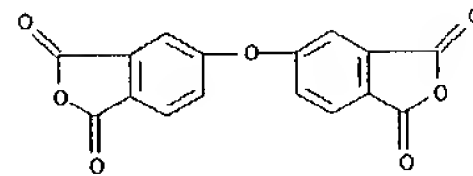
RN 241468-58-6 CAPLUS

L9 ANSWER 20 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 2

CRN 1823-59-2

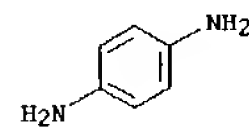
CMF C16 H6 O7



CM 3

CRN 106-50-3

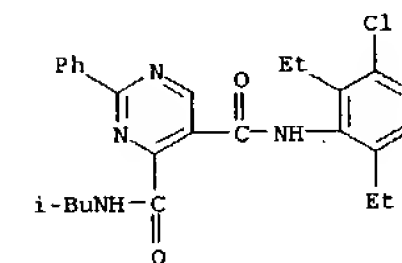
CMF C6 H8 N2



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 21 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CN 4,5-Pyrimidinedicarboxamide, N5-(3-chloro-2,6-diethylphenyl)-N4-(2-methylpropyl)-2-phenyl- (9CI) (CA INDEX NAME)

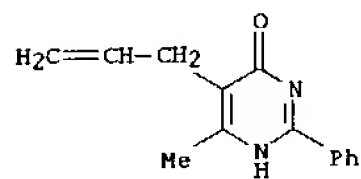


REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9/811, 359

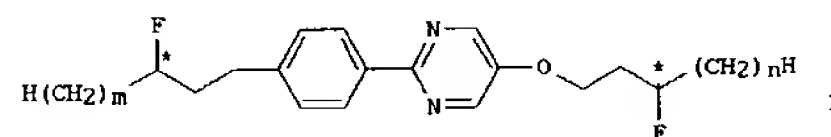
09/835,523

L9 ANSWER 22 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:567092 CAPLUS
 DOCUMENT NUMBER: 132:131759
 TITLE: Synthesis, chemical and antitumor properties of some furo(2,3-d)pyrimidines
 AUTHOR(S): Khachatryan, V. E.; Israelyan, S. G.; Stepanyan, G. M.; Arsenyan, F. G.; Garibjanyan, B. T.; Melik-Ohanjanyan, R. G.
 CORPORATE SOURCE: Inst. Tonk. Org. Khim. im. A.A. Mndzhoyana, NAN Respubl. Arm., Yerevan, Armenia
 SOURCE: Khimicheskii Zhurnal Armenii (1999), 52(1-2), 95-101 CODEN: KZARF3
 PUBLISHER: Izdatel'stvo Gitutyun NAN Respubliki Armenii
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB 6-Bromomethyl-4-methyl-2-phenyl-5,6-dihydrofuro(2,3-d)-pyrimidine was obtained by bromination of appropriate 5-allyl-6-hydroxypyrimidine, which was synthesized by condensation of benzamide with Et of allylacetate. 6-Bromomethyl analog was converted to 6-thiocyanomethyl derivative by the action of potassium thiocyanate in DMF. Reaction of 6-bromomethyldihydrofuro(2,3-d)pyrimidine with sodium ethylate gives 2-phenyl-4,6-dimethylfuro(2,3-d)pyrimidine. Two substituted 4-(p-nitrophenyl)vinyl- and 4-(2-carboxy)-vinyl-6-methylfuro(2,3-d)pyrimidines were obtained by interaction of 2-phenyl- and recently synthesized 2-Me and 2-methylthio-4,6-dimethylfuro(2,3-d)pyrimidines with p-nitrobenzaldehyde or chloralhydrate. Structure of these compds. was proved by NMR- and mass spectroscopy. Investigation of biol. activity of the synthesized compds. showed low toxicity and moderate antitumor activity on Sa-45 exptl. tumor.
 IT 255869-27-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis, chemical and antitumor properties of some furo(2,3-d)pyrimidines)
 RN 255869-27-3 CAPLUS
 CN 4(1H)-Pyrimidinone, 6-methyl-2-phenyl-5-(2-propenyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 23 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:556752 CAPLUS
 DOCUMENT NUMBER: 131:207236
 TITLE: Dichiral phenylpyrimidine derivative, its intermediate, and ferroelectric liquid crystal composition containing the derivative
 INVENTOR(S): Kusumoto, Akio; Kato, Miho; Hiyama, Tamejiro
 PATENT ASSIGNEE(S): Sagami Chemical Research Center, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp. CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

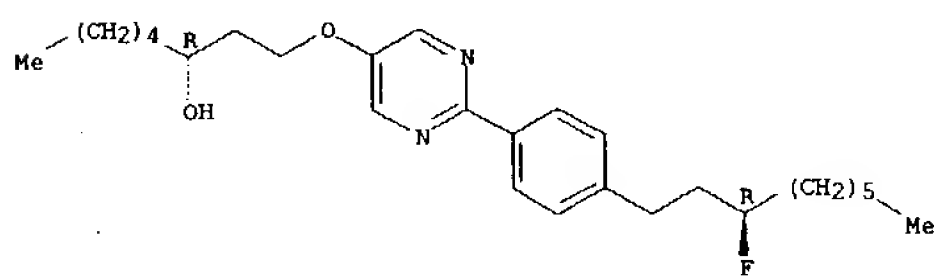
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------|------|----------|-----------------|----------|
| JP 11236378 | A2 | 19990831 | JP 1998-40146 | 19980223 |
| PRIORITY APPLN. INFO.: MARPAT 131:207236 | | | JP 1998-40146 | 19980223 |
| OTHER SOURCE(S): | | | | |
| GI | | | | |



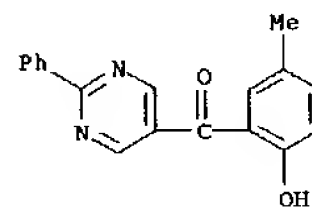
AB The dichiral phenylpyrimidine derivative is shown as I (m, n = 1-16, C with * shows an optically active asym. C). The intermediate for preparation of I is 2-[4-(3-fluoroalkyl)phenyl]-5-hydroxypyrimidine. The liquid crystal composition contains I. The compound I is useful as a chiral dopant for ferroelec. liquid crystal composition with high-speed response.
 IT 241152-91-0P
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (dichiral phenylpyrimidine derivative and its intermediate, for ferroelec. liquid crystal composition)
 RN 241152-91-0 CAPLUS
 CN 3-Octanol, 1-[[2-[4-[(3R)-3-fluorononyl]phenyl]-5-pyrimidinyl]oxy]-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 23 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 24 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:516277 CAPLUS
 DOCUMENT NUMBER: 131:257527
 TITLE: Iminophosphoranes in heterocyclic chemistry. A simple one-pot synthesis of dihydropyrimidines and pyrimidines
 AUTHOR(S): Rossi, Elisabetta; Abbiati, Giorgio; Pini, Elena
 CORPORATE SOURCE: Istituto Chimica Organica, Facolta Farmacia, Univ. Studi Milano, Milan, I-20133, Italy
 SOURCE: Synlett (1999), (8), 1265-1267 CODEN: SYNLES; ISSN: 0936-5214
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 131:257527
 AB The condensation of HN:CPhN:PPh3 with acyclic α,β-unsatd. aldehydes produces dihydropyrimidines in good to high yields. The methodol. was extended to alicyclic and heterocyclic aldehydes.
 IT 245091-40-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of dihydropyrimidines and pyrimidines)
 RN 245091-40-1 CAPLUS
 CN Methanone, (2-hydroxy-5-methylphenyl) (2-phenyl-5-pyrimidinyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

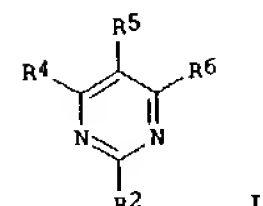
9/811, 359

09/035,523

L9 ANSWER 25 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:505664 CAPLUS
 DOCUMENT NUMBER: 131:144609
 TITLE: Preparation of pyrimidinecarboxylates and analogs as transcription factor activation inhibitors
 INVENTOR(S): Suto, Mark J.; Gayo, Leah M.; Palanki, Moorthy S. S.; Ransone-Fong, Lynn J.
 PATENT ASSIGNEE(S): Signal Pharmaceuticals, Inc., USA
 SOURCE: U.S., 32 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 4
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| US 5935966 | A | 19990810 | US 1997-807677 | 19970227 |
| US 5852028 | A | 19981222 | US 1995-574406 | 19951218 |
| WO 9709325 | A1 | 19970313 | WO 1996-US14089 | 19960830 |
| W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA | | | | |
| WO 9838171 | A1 | 19980903 | WO 1998-US3616 | 19980224 |
| W: AU, CA, JP | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| AU 9866667 | A1 | 19980918 | AU 1998-66667 | 19980224 |
| PRIORITY APPLN. INFO.: US 1995-3109P P 19950901 | | | | |
| US 1995-574406 A2 19951218 | | | | |
| WO 1996-US14089 W 19960830 | | | | |
| US 1997-807677 A 19970227 | | | | |
| WO 1998-US3616 W 19980224 | | | | |

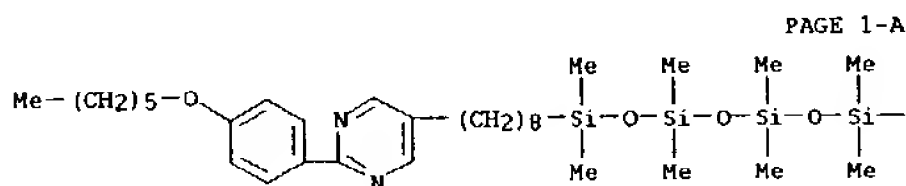
OTHER SOURCE(S): MARPAT 131:144609
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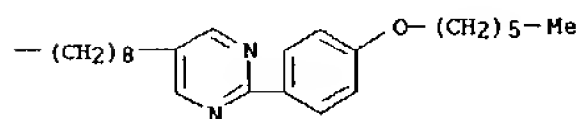
AB Title compds. [I: 1 of R2,R4 = NRR9 and the other = H, halo, alkyl, aryl, etc.; R = (un)substituted phthalimido, -maleimido, etc.; R5 = CO2R7, COR8, 4-methyl-2-oxazolyl, etc.; R6 = H, F, Me, CF3, CH2Ph; R7 = H, (ar)alkyl, aryl, etc.; R8 = (ar)alkyl, aryl, etc.; R9 = (ar)alkyl, CO2R7, etc.; Z =

L9 ANSWER 26 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:498403 CAPLUS
 DOCUMENT NUMBER: 131:163454
 TITLE: Liquid crystal device and liquid crystal display device
 INVENTOR(S): Sato, Koichi; Haniu, Yukio; Takiguchi, Takao; Nakamura, Shinichi; Noguchi, Koji; Shimizu, Yasushi
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
 CODEN: JXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

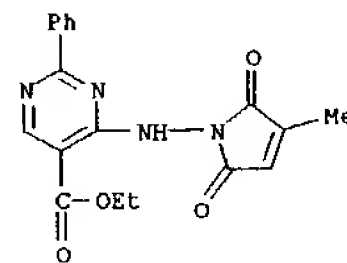
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 11217568 | A2 | 19990810 | JP 1998-33523 | 19980202 |
| PRIORITY APPLN. INFO.: JP 1998-33523 19980202 | | | | |
| OTHER SOURCE(S): MARPAT 131:163454 | | | | |
| AB The device contains a pair of substrates sandwiching a liquid crystal composition, in which one of the substrate has a uniaxially oriented film coated with a dimer liquid crystal compound-based layer. The display device contains the former device and its driving apparatus. The display device may contain a chiral-smectic liquid crystal. The display device shows improved driving margin. | | | | |
| IT 237081-48-0 | | | | |
| RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) | | | | |
| (liquid crystal display device containing dimer liquid crystal compound) | | | | |
| RN 237081-48-0 CAPLUS | | | | |
| CN Pyrimidine, 5,5'-[(1,1,3,3,5,5,7,7-octamethyl-1,7-tetrasiloxanediyl)di-8,1-octanediyl]bis[2-[4-(hexyloxy)phenyl]- (9CI) (CA INDEX NAME) | | | | |



PAGE 1-B



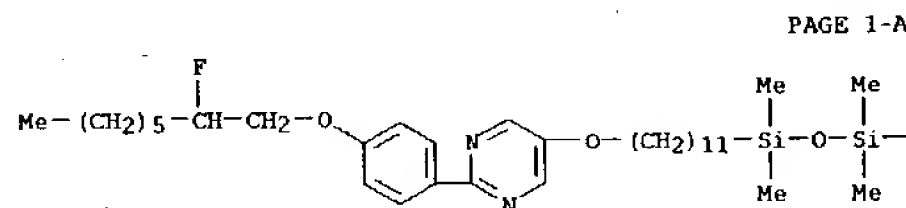
L9 ANSWER 25 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 bond, O, NH) were prepd. Thus, EtCOCH2CO2Et was condensed with (H2N)2CO/HC(OEt)3 and the product cyclized to give, in 2 addnl. steps, I (R4 = Et, R5 = CO2Et, R6 = H) (II; R2 = NHNH2) which was cyclocondensed with citraconic anhydride to give II [R2 = (methylmaleimido)amino]. Data for biol. activity of I were given.
 IT 188936-99-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of pyrimidinecarboxylates and analogs as transcription factor activation inhibitors)
 RN 188936-99-4 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-[(2,5-dihydro-3-methyl-2,5-dioxo-1H-pyrrol-1-yl)amino]-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)



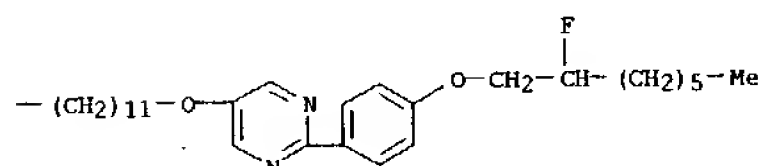
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 27 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:449196 CAPLUS
 DOCUMENT NUMBER: 131:123050
 TITLE: Liquid crystal element having interface layer containing bar-shaped compound and its production method
 INVENTOR(S): Maruyama, Tomoko; Sato, Koichi; Kaneko, Shuzo
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 11194348 | A2 | 19990721 | JP 1997-368951 | 19971230 |
| PRIORITY APPLN. INFO.: JP 1997-368951 19971230 | | | | |
| AB In the liquid crystal element, a chiral smectic phase liquid crystal, which does not show cholesteric phase on lowering temperature, is sandwiched between a pair of substrates ≥1 of which has been unidirectionally aligned. An interface layer comprising a bar-shaped compound is formed at ≥1 interface between the substrate and the liquid crystal. The element is manufactured by (1) forming a pair of substrates ≥1 of which has been unidirectionally aligned and (2) injecting the liquid crystal containing a bar-shaped compound between the substrates. The element is manufactured by (1) forming a pair of substrates ≥1 of which has been unidirectionally aligned and having a layer containing the bar-shaped compound and (2) injecting the liquid crystal between the substrates. The element shows uniform alignment property and shows small change of the switching characteristics. | | | | |
| IT 233608-71-4 | | | | |
| RL: DEV (Device component use); USES (Uses) | | | | |
| (liquid crystal composition; liquid crystal element having interface layer containing bar-shaped compound) | | | | |
| RN 233608-71-4 CAPLUS | | | | |
| CN Pyrimidine, 5,5'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(11,1-undecanediyl)bis[2-[4-[(2-fluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME) | | | | |



PAGE 1-B



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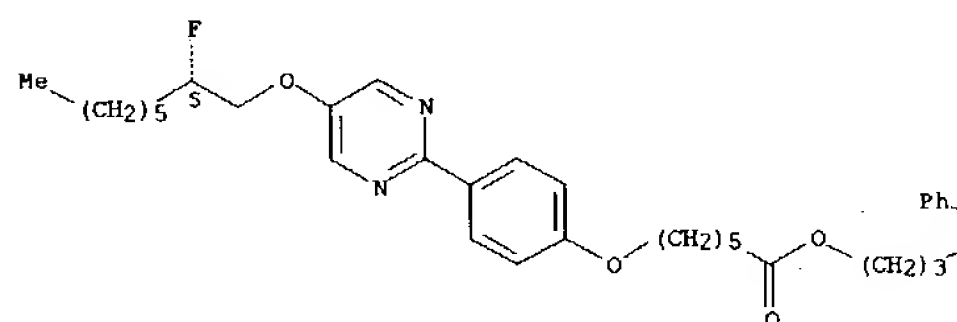
097 835,523

L9 ANSWER 27 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 28 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:446775 CAPLUS
 DOCUMENT NUMBER: 131:243148
 TITLE: Preparation and characterization of carbosilane dendrimers carrying mesogens with chiral substituent
 AUTHOR(S): Terunuma, Daiyo; Nishio, Rei; Aoki, Yoshio; Nohira, Hiroyuki; Matsuoka, Koji; Kuzuhara, Hiroyoshi
 CORPORATE SOURCE: Department of Functional Materials and Science, Faculty of Engineering, Saitama University, Saitama, 338, Japan
 SOURCE: Chemistry Letters (1999), (7), 565-566
 CODEN: CMLTAG; ISSN: 0366-7022
 PUBLISHER: Chemical Society of Japan
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A series of new carbosilane dendrimers carrying a mesogenic group, (+)-4-[5-[(2-Fluorooctyl)oxy]-2-pyrimidinyl]phenol, were prepared successfully. Although the dendrimers did not show any clear Sc¹ phases, it was found that all the dendrimers prepared were operative as chiral dopants.
 IT 244213-73-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and characterization of carbosilane dendrimers carrying mesogens with chiral substituent)
 RN 244213-73-8 CAPLUS
 CN Hexanoic acid, 6-[4-[5-[[[(2R)-2-fluorooctyl]oxy]-2-pyrimidinyl]phenoxy]-, (phenylsilylidyne)tri-3,1-propanediyl ester, rel- (9CI) (CA INDEX NAME)

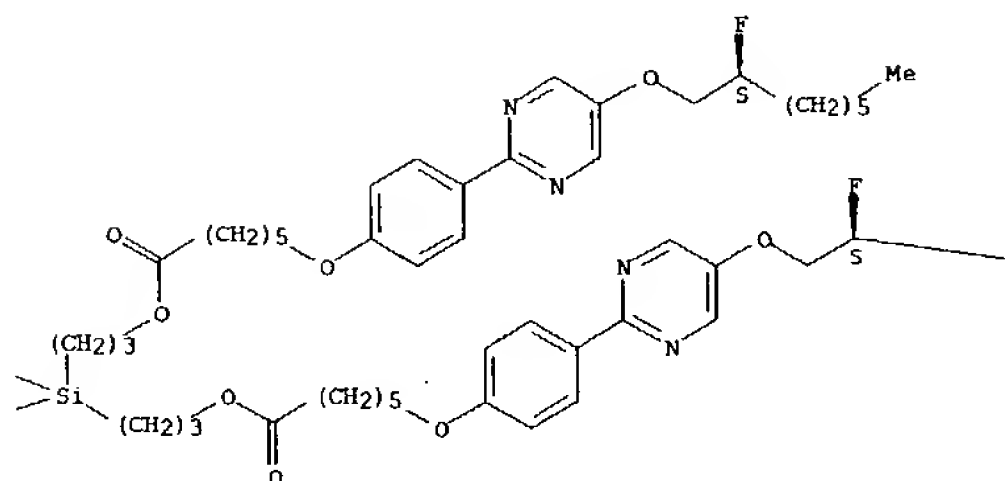
Relative stereochemistry.

PAGE 1-A



L9 ANSWER 28 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

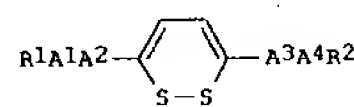
PAGE 1-B



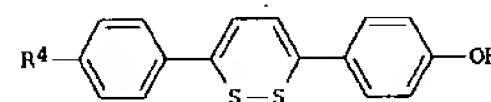
PAGE 1-C

L9 ANSWER 29 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:420926 CAPLUS
 DOCUMENT NUMBER: 131:123032
 TITLE: Dithiin derivatives and liquid-crystal compositions and devices containing them
 INVENTOR(S): Shundo, Tatsushi; Saito, Shinichi; Okabe, Eiji; Saito, Hideo
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 11180978 | A2 | 19990706 | JP 1997-366394 | 19971224 |
| PRIORITY APPLN. INFO.: | | | JP 1997-366394 | 19971224 |
| OTHER SOURCE(S): | | MARPAT 131:123032 | | |



I



II

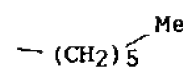
AB The dithiin derivs. comprise I [R1 = C2-15 alkyl, alkoxy, alkanoyl, alkanoyloxy, alkoxy-carbonyl, alkoxy-carbonyloxy, alkylthio; R2 = C2-15 alkoxy, optically active group; A1-A4 = single bond, (halo-, nitrile-, or N-substituted) 1,4-phenylene, (O- or S-substituted) 1,4-cyclohexylene] or II (R4 = C2-15 alkyl or alkoxy). The liquid-crystal compns. and devices containing the dithiin derivs. are also claimed. The dithiin derivs. show low m.p. and smectic C phases in a wide temperature range.

IT 231962-67-7
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (dithiin derivs. for ferroelec. liquid-crystal compns. and devices)
 RN 231962-67-7 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with 3-[4-[[[(2S)-2-fluorooctyl]oxy]phenyl]-6-(4-pentylphenyl)-1,2-dithiin, 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-octylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 231962-66-6
 CMF C29 H37 F O S2

Absolute stereochemistry.



REFERENCE COUNT:

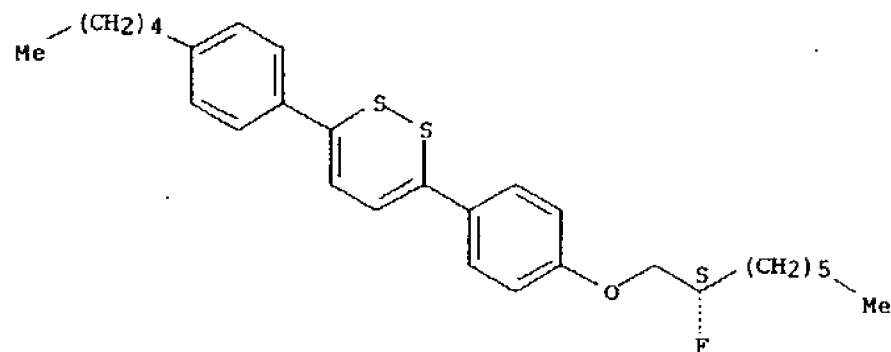
19

THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9/8/11, 359

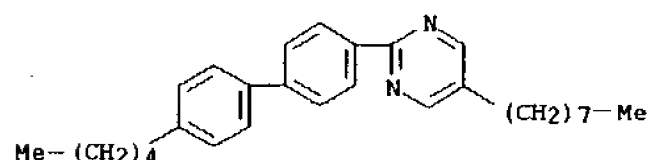
09/ 835,523

L9 ANSWER 29 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



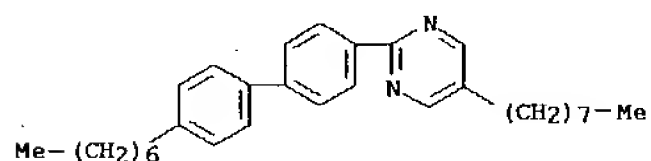
CM 2

CRN 118266-63-0
CMF C29 H38 N2



CM 3

CRN 117433-12-2
CMF C31 H42 N2



CM 4

CRN 57202-52-5
CMF C28 H44 N2 O

L9 ANSWER 30 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:365802 CAPLUS
DOCUMENT NUMBER: 131:37882
TITLE: Liquid crystal display with stable memory function and liquid crystal composition therefor
INVENTOR(S): Totani, Yoshiyuki; Ishida, Tsutomu; Kayashima, Hiroe; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 59 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 11152472 | A2 | 19990608 | JP 1997-321398 | 19971121 |

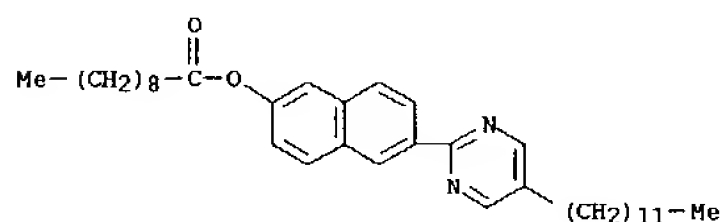
PRIORITY APPLN. INFO.: JP 1997-321398 19971121
OTHER SOURCE(S): MARPAT 131:37882

AB The composition contains an optically inactive naphthylpyrimidine compound R11Y11a(A11X12)pQ1Q2(X12A12)qY12bR12 (Q1 = pyrimidine-2,5-diyl; Q2 = naphthalene-2,6-diyl; R11, R12 = C1-24 alkyl, C2-24 unsatd. alkyl; A11, A12 = 1,4-phenylene, pyridine-2,5-diyl, trans-1,4-cyclohexylene; X11, X12 = single bond, CO2, OCO, OCH2, CH2O; Y11, Y12 = O, CO2, OCO; a, b, p, q = 0, 1), an optically inactive phenylpyrimidine compound R21Y21Q1-p-C6H4Y22R22 (R12, R22 = C1-12 alkyl; Y21, Y22 = single bond, O), and an optically inactive thiadiazole compound R31Y31-p-C6H4Q3-p-C6H4Y32R32 (Q3 = 1,3,4-thiadiazole-2,5-diyl; R31, R32 = C1-12 alkyl; Y21, Y22 = C1-12 alkyl; Y31, Y32 = single bond, O). A LCD (liquid crystal display) including the composition between a pair of electrode-containing substrates, is also claimed.

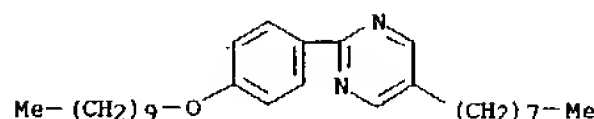
IT 187524-59-0

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition containing pyrimidine derivative and thiadiazole derivative for LCD with stable memory property)

RN 187524-59-0 CAPLUS
CN Decanoic acid, 6-(5-dodecyl-2-pyrimidinyl)-2-naphthalenyl ester (9CI) (CA INDEX NAME)

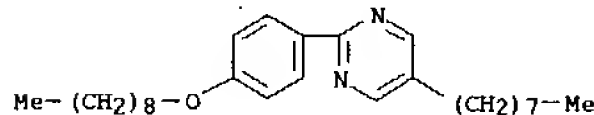


L9 ANSWER 29 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



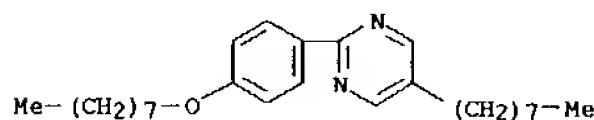
CM 5

CRN 57202-51-4
CMF C27 H42 N2 O



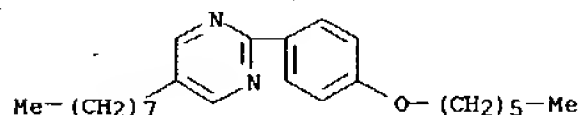
CM 6

CRN 57202-50-3
CMF C26 H40 N2 O



CM 7

CRN 57202-48-9
CMF C24 H36 N2 O



L9 ANSWER 31 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:336349 CAPLUS
DOCUMENT NUMBER: 131:136154
TITLE: Multichannel asynchronous time-resolving system for a conventional FT-IR spectrophotometer
AUTHOR(S): Masutani, K.; Numahata, K.; Nishimura, K.; Ochiai, S.; Nagasaki, Y.; Katayama, N.; Ozaki, Y.
CORPORATE SOURCE: SOPAC Inc., Tachikawa, 190-0033, Japan
SOURCE: Applied Spectroscopy (1999), 53(5), 588-594
CODEN: APSPA4; ISSN: 0003-7028
PUBLISHER: Society for Applied Spectroscopy
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A multichannel asynchronous time-resolving system with 16 time-resolving channels was developed for use with conventional FTIR spectrophotometers. The system enables measurement at 16 time delays simultaneously; this allows for shortening the measuring time substantially and decreases the possibility of damage of a sample by the IR irradiation. Simultaneous time resolving by the multichannel system improves the reliability of the data. The performance of the system is demonstrated with a study of reorientation dynamics of a ferroelec. liquid crystal KB-05 with chiral dopants KLS-372-S and KLS-340S.

IT 234757-26-7

RL: PRP (Properties)
(multichannel asynchronous time-resolving system for conventional FTIR spectrophotometers and application to reorientation dynamics study of ferroelec. liquid crystal)

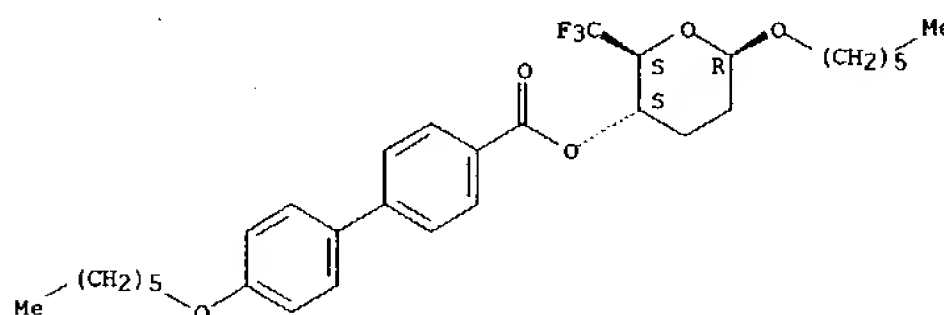
RN 234757-26-7 CAPLUS

CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(hexyloxy)-, (2S,5S,6S)-5-(hexyloxy)tetrahydro-6-(trifluoromethyl)-2H-pyran-2-yl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, (2S,3S,6R)-6-(hexyloxy)tetrahydro-2-(trifluoromethyl)-2H-pyran-3-yl 4'-(hexyloxy)[1,1'-biphenyl]-4-carboxylate and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 163484-34-2
CMF C31 H41 F3 O5

Absolute stereochemistry.



CM 2

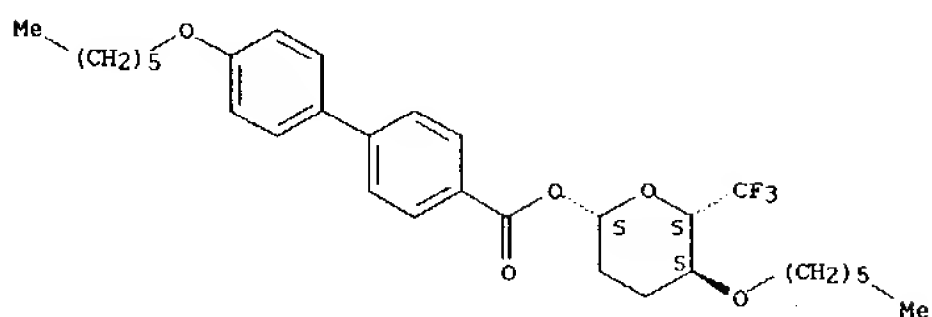
CRN 150458-65-4

91811, 359

09/ 835,523

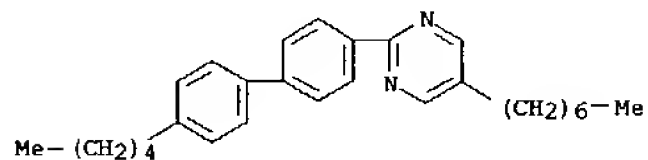
L9 ANSWER 31 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C31 H41 F3 O5

Absolute stereochemistry.



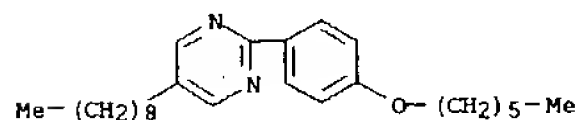
CM 3

CRN 92528-52-4
CMF C28 H36 N2



CM 4

CRN 57202-56-9
CMF C25 H38 N2 O



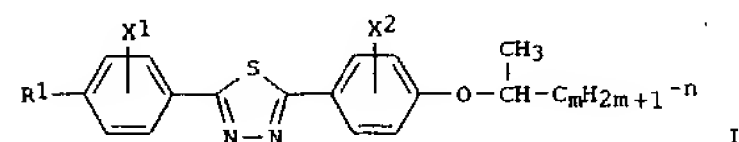
CM 5

CRN 57202-52-5
CMF C28 H44 N2 O

L9 ANSWER 32 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:331315 CAPLUS
DOCUMENT NUMBER: 131:37874
TITLE: Heterocycle-containing optical active compound, liquid crystal composition, and liquid crystal element
INVENTOR(S): Totani, Yoshiyuki; Ishida, Tsutomu; Kayashima, Hiroe; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp. CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 11140065 | A2 | 19990525 | JP 1997-309062 | 19971111 |
| PRIORITY APPLN. INFO.: | | | JP 1997-309062 | 19971111 |
| OTHER SOURCE(S): | | MARPAT 131:37874 | | |

GI



AB The compound I [R1 = linear or branched (unsatd.) C3-24 alkyl or alkoxyalkyl which may be substituted for halo; X1-2 = H, halo; m = 3-10], a liquid crystal composition containing ≥1 of I, and a liquid crystal element comprising I sandwiched with a pair of electrodes are claimed. The composition shows rapid response and is useful for liquid crystal displays.

IT 226991-76-0

RL: DEV (Device component use); USES (Uses)
(liquid crystal composition containing optical active thiadiazole compound)

RN 226991-76-0 CAPLUS

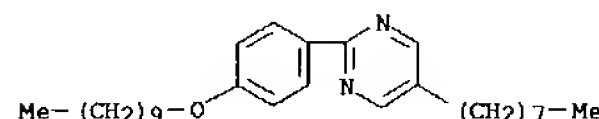
CM Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with 2-(4-decylphenyl)-5-[4-[(1R)-1-methylheptyloxy]phenyl]-1,3,4-thiadiazole, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 226991-75-9
CMF C32 H46 N2 O S

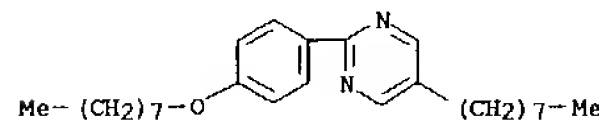
Absolute stereochemistry.

L9 ANSWER 31 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



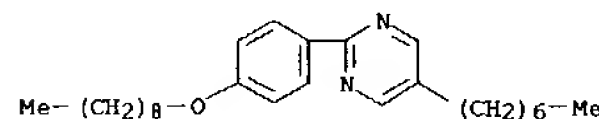
CM 6

CRN 57202-50-3
CMF C26 H40 N2 O



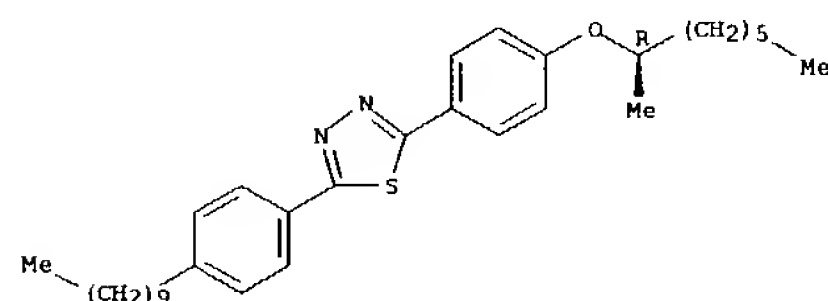
CM 7

CRN 57202-40-1
CMF C26 H40 N2 O



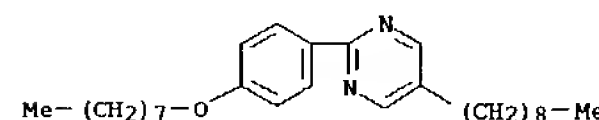
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 32 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



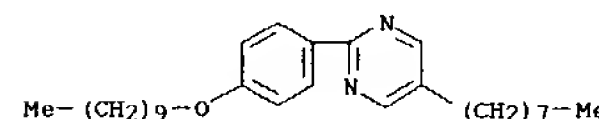
CM 2

CRN 57202-58-1
CMF C27 H42 N2 O



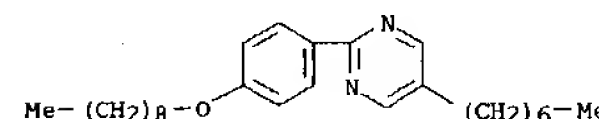
CM 3

CRN 57202-52-5
CMF C28 H44 N2 O



CM 4

CRN 57202-40-1
CMF C26 H40 N2 O



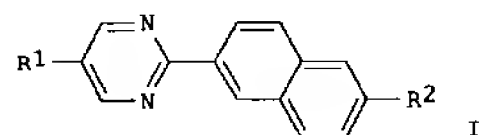
9/811, 359

09/ 835,523

L9 ANSWER 33 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:331311 CAPLUS
 DOCUMENT NUMBER: 131:52102
 TITLE: Optically active esters, liquid crystal compositions containing them, and liquid crystal elements
 INVENTOR(S): Totani, Yoshiyuki; Ishida, Tsutomu; Kayashima, Hiroe; Nakatsuka, Masakatsu
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 11140059 | A2 | 19990525 | JP 1997-309061 | 19971111 |
| PRIORITY APPLN. INFO.: | | JP 1997-309061 | | 19971111 |
| OTHER SOURCE(S): | | MARPAT 131:52102 | | |

GI



AB Optically active esters I [R1, R2 = O(CH2)pC*HMeCO2R3, Y1R4; R3 = (halogen-substituted) C1-24 linear or branched alkyl, C3-10 cycloalkyl; p = 0, 1; C* indicates optically active asym. C; R4 = (halogen-substituted) C1-24 linear or branched alkyl, (halogen-substituted) C3-24 linear or branched alkoxyalkyl, (halogen-substituted) C3-24 linear or branched unsatd. alkyl, (halogen-substituted) C3-24 linear or branched unsatd. alkoxyalkyl; Y1 = single bond, O; at least either R1 or R2 is O(CH2)pC*HMeCO2R3] are claimed. Liquid crystal compns. containing I, and liquid crystal elements using the compns. placed between a pair of electrode substrates are also claimed. High-speed response is achieved with the compns. showing chiral smectic liquid-crystal phases.

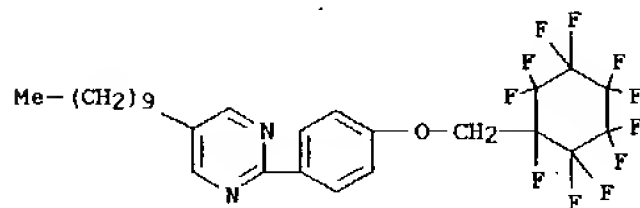
IT 227019-85-4P
 RL: DEV (Device component use); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of optically active pyrimidinyl-naphthalene carboxylate esters for chiral smectic liquid crystal displays)
 RN 227019-85-4 CAPLUS
 CN Propanoic acid, 2-[[6-(5-octyl-2-pyrimidinyl)-2-naphthalenyl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

L9 ANSWER 34 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:330514 CAPLUS
 DOCUMENT NUMBER: 130:345101
 TITLE: Polyfluorinated cyclohexane derivatives and liquid-crystal mixtures and switching and/or display devices using them
 INVENTOR(S): Wingen, Rainer; Hornung, Barbara; Manero, Javier; Schmidt, Wolfgang
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 38 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

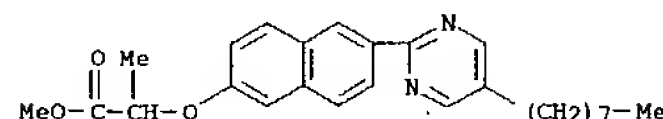
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|------------------|----------|
| DE 19748818 | A1 | 19990520 | DE 1997-19748818 | 19971105 |
| PRIORITY APPLN. INFO.: | | DE 1997-19748818 | | 19971105 |
| OTHER SOURCE(S): | | MARPAT 130:345101 | | |

AB The compds. have the general formula R1(A1M1)a(A2M2)b(A3)CM3B, where B = perfluorocyclohexyl; R1 = H, OCF3, CF3, CN, F, Cl, OCHF2, OCH2F, CHF2, CH2F, or C1-20 alkyl in which ≥1 CH2 group may be replaced by various groups, ≥1 H atom may be replaced by F and/or Cl, and/or the terminal CH3 may be replaced by a chiral group; M1, M2 = COO, OCO, COS, SCO, CSO, CSS, OCS, SCS, CH2O, OCH2, CH2S, SCH2, CH:CH, C.tplbond.C, CH2CH2OCH2, OCOCH2CH2, or a single bond; M3 = OCO, OCH2, CH:CH, CH2CH2, CH2CH2OCH2, CH2CH3OCO, CH2CH2CH:CH, CH2CH2CH2CH2, or a single bond; A1-3 = various substituted or unsubstituted rings; and a, b, c = 0 or 1; the compds. contain 2-4 rings with ≥5 members. The liquid-crystal mixture may be optically active tilted smectic and have a spontaneous bookshelf geometry.

IT 224050-96-8P
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation of: in formation of polyfluorinated cyclohexane derivs. for liquid-crystal mixts. and display devices)
 RN 224050-96-8 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(undecafluorocyclohexyl)methoxy]phenyl]- (9CI) (CA INDEX NAME)



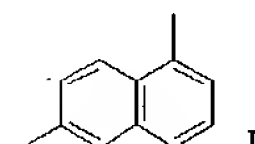
L9 ANSWER 33 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 35 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:311398 CAPLUS
 DOCUMENT NUMBER: 130:318670
 TITLE: 1,6-disubstituted naphthalene derivative and its application in liquid crystalline mixtures
 INVENTOR(S): Manero, Javier; Schmidt, Wolfgang; Hornung, Barbara
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 24 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

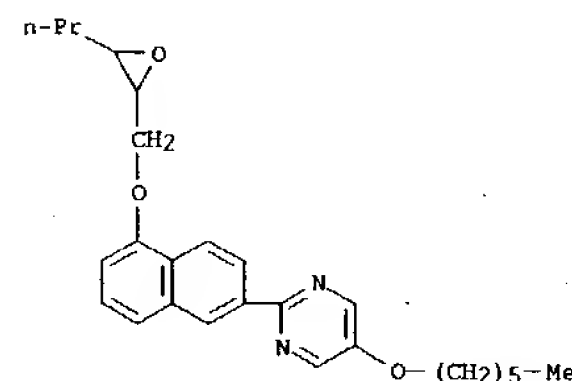
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|------------------|----------|
| DE 19748439 | A1 | 19990506 | DE 1997-19748439 | 19971103 |
| PRIORITY APPLN. INFO.: | | DE 1997-19748439 | | 19971103 |
| OTHER SOURCE(S): | | MARPAT 130:318670 | | |

GI



AB The 1,6-disubstituted naphthalene derivative is represented by a general formula R1(A1M1)a(A2M2)bB(M3A3)c(M4A4)dR2 [B = I; R1, R2 = H, OCF3, CF3, CN, F, Cl, OCHF2, OCH2F, CHF2, CH2F, C1-20-alkyl; M1-4 = COO, OCO, COS, SCO, CSO, CSS, OCS, SCS, CH2O, OCH2, CH2S, SCH2, CH:CH, C.tplbond.C, CH2CH2COO, OCOCH2CH2, single bond; A1-4 = 1,4-phenylene, pyrazine-2,5-diyl, pyridazine-3,6-diyl, pyridine-2,5-diyl, etc.; a, b, c, d = 0, 1]. The mixture can be used for ferroelec. liquid crystal displays.

IT 223664-06-0
 RL: TEM (Technical or engineered material use); USES (Uses)
 (1,6-disubstituted naphthalene derivative and its application in liquid crystalline mixts.)
 RN 223664-06-0 CAPLUS
 CN Pyrimidine, 5-(hexyloxy)-2-[5-[(3-propyloxiranyl)methoxy]-2-naphthalenyl]- (9CI) (CA INDEX NAME)



9/811, 359

09/ 835,523

L9 ANSWER 35 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

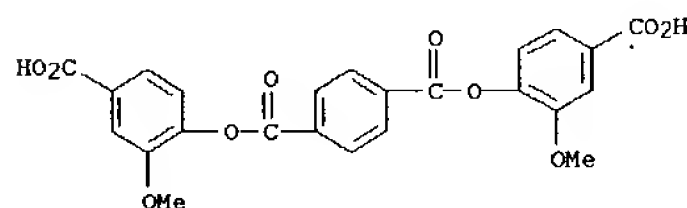
L9 ANSWER 36 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:294128 CAPLUS
DOCUMENT NUMBER: 131:74050
TITLE: Thermochemistry of polymers based on vanillic acid
AUTHOR(S): Sazanov, Yu. N.; Goykhman, M. Ya.; Podeshvo, I. V.;
Fedorova, G. N.; Mikhailov, G. M.; Kudriavtsev, V. V.
CORPORATE SOURCE: Institute of Macromolecular Comp, Academy of Science
of Russia, St. Petersburg, 199004, Russia
SOURCE: Journal of Thermal Analysis and Calorimetry (1999),
55(3), 721-726
CODEN: JTACF7; ISSN: 1418-2874
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Preparation and thermal anal. of polyesters and polyamides based on a vanillic
acid derivative [bis(4-carboxy-2-methoxyphenyl) terephthalate] and diols or
aromatic diamines have been reported. Different behaviors with the
appearance of the thermal degradation, structurization, and carbonization
stages were detected. Thermochem. behavior of the polymers revealed that
tech. lignin derivs. such as vanillic acid are promising for obtaining
polymer materials with good properties.
IT 228413-54-5P
RL: FRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and thermochem. of polymers based on vanillic acid)
RN 228413-54-5 CAPLUS
CN 1,4-Benzenedicarboxylic acid, bis(4-carboxy-2-methoxyphenyl) ester,
polymer with 4,4'-(2,5-pyrimidinediyl)bis[benzenamine] (9CI) (CA INDEX
NAME)

CM 1

CRN 203304-35-2

CMF C24 H18 O10

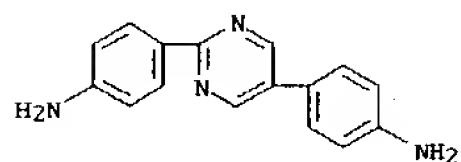


CM 2

CRN 102570-64-9

CMF C16 H14 N4

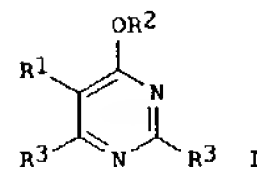
L9 ANSWER 36 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



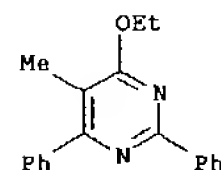
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 37 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:264304 CAPLUS
DOCUMENT NUMBER: 131:73624
TITLE: An easy one-step synthesis of 4-alkoxypyrimidines from
aliphatic esters and nitriles
AUTHOR(S): Martinez, A. Gacias; Fernandez, A. Herrera; Alvarez,
R. Martinez; Vilchez, M. D. Molero; Gutierrez, M. L.
Laorden; Subramanian, L. R.
CORPORATE SOURCE: Departamento de Quimica Organica I, Facultad de
Ciencias Quimicas, Universidad Complutense, Madrid,
E-28040, Spain
SOURCE: Tetrahedron (1999), 55(15), 4825-4830
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:73624
GI



AB The reaction of aliphatic esters R1CH2CO2R2 (R1 = H, Me, Bu; R2 = Et, Ph, Bu)
with aliphatic or aromatic nitriles R3CN (R3 = Me, Ph) in the presence of
trifluoromethanesulfonic anhydride affords substituted 4-alkoxypyrimidines
I in good yields. A mechanism of the reaction is proposed.
IT 229032-06-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of alkoxyprymidines by cyclocondensation of aliphatic esters with
nitriles)
RN 229032-06-8 CAPLUS
CN Pyrimidine, 4-ethoxy-5-methyl-2,6-diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

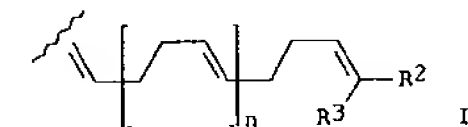
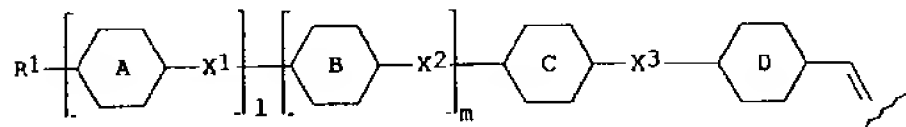
9/811, 359

~~09/ 835,523~~

L9 ANSWER 38 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:250260 CAPLUS
 DOCUMENT NUMBER: 130:330642
 TITLE: Trans-polyene-containing liquid crystalline compounds, their compositions, and liquid crystal display devices using them
 INVENTOR(S): Kato, Takashi; Onishi, Noriyuki
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------|------|----------|-----------------|----------|
| JP 11106357 | A2 | 19990420 | JP 1997-284456 | 19971001 |
| PRIORITY APPLN. INFO.: JP 1997-284456 19971001 | | | | |
| OTHER SOURCE(S): MARPAT 130:330642 | | | | |

GI



AB Liquid crystalline compds. have trans-polyenes in the side chains. Also claimed are trans-polyene-containing liquid crystalline compds. I [R1 = H, cyano, halo, Cl-20

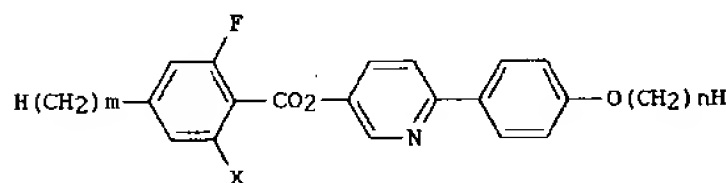
linear or branched (halo)alkyl in which non-neighboring CH₂ groups may be substituted with O or CH:CH groups; R₂ = H, halo, Cl-9 alkyl; R₃ = H, halo; the rings A, B, C, and D indicate 1,4-phenylene, trans-1,4-cyclohexylene, bicyclo[1.1.0]butane, bicyclo[2.2.2]octane, cyclobutane, or spiro[3.3]heptane rings in which H atoms may be substituted with halogens and C atoms may be substituted with N or O atoms; l, m = 0, 1; n = 1-5]. Liquid crystalline compns. containing the trans-polyene compds. and Ph compds., and liquid crystal display devices using the compns. are also claimed. The liquid crystalline polyene compds. show high elastic constant ratios, low viscosity, and good compatibility with other liquid crystalline compds.

IT 223788-91-8
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (preparation of trans-polyene compds. for liquid crystal display device)
 RN 223788-91-8 CAPLUS

L9 ANSWER 39 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:238664 CAPLUS
 DOCUMENT NUMBER: 130:289060
 TITLE: Fluorine-containing carboxylic acid ester, and liquid-crystal composition and optical switching device using it
 INVENTOR(S): Kusumoto, Tetsuo; Hiyama, Tamejiro; Matsui, Junko
 PATENT ASSIGNEE(S): Sagami Chemical Research Center, Japan; Japan Energy K. K.
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------|------|----------|-----------------|----------|
| JP 11100578 | A2 | 19990413 | JP 1997-276691 | 19970925 |
| PRIORITY APPLN. INFO.: JP 1997-276691 19970925 | | | | |
| OTHER SOURCE(S): MARPAT 130:289060 | | | | |

GI



AB The ester comprises I (m = 2-18; n = 1-18; X = H, F). The composition containing ≥1 I and the optical switching device using the composition are also claimed. The composition shows a smectic phase in a wide temperature range and rapid response.

IT 222975-61-3
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (liquid-crystal composition containing fluorine-containing carboxylic acid ester for optical switching device)

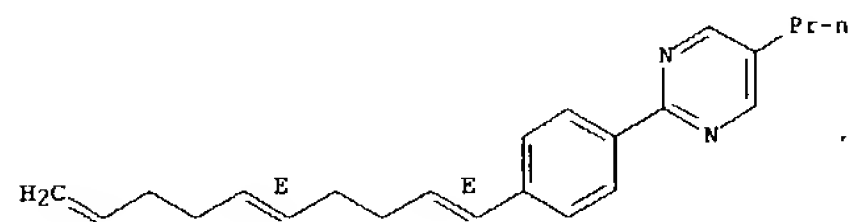
RN 222975-61-3 CAPLUS
 CN Benzoic acid, 2-fluoro-4-hexyl-, 6-[4-(octyloxy)phenyl]-3-pyridinyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

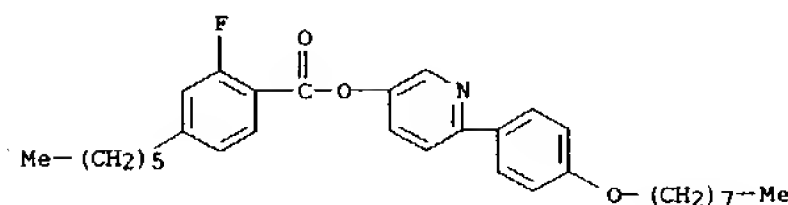
CRN 222975-60-2
 CMF C32 H40 F N O3

L9 ANSWER 38 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CN Pyrimidine, 2-[4-(1E,5E)-1,5,9-decatrienylphenyl]-5-propyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

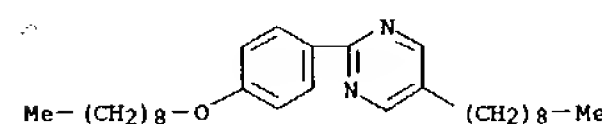


L9 ANSWER 39 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



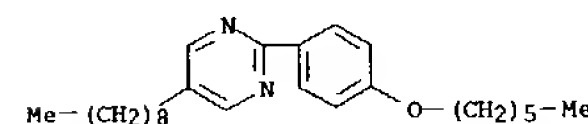
CM 2

CRN 99895-85-9
 CMF C28 H44 N2 O



CM 3

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 4

CRN 57202-52-5
 CMF C28 H44 N2 O



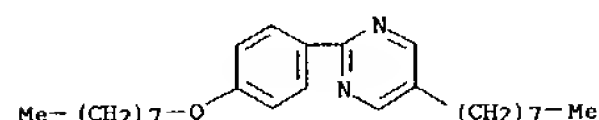
CM 5

CRN 57202-50-3
 CMF C26 H40 N2 O

9/811, 359

09/ 835,523

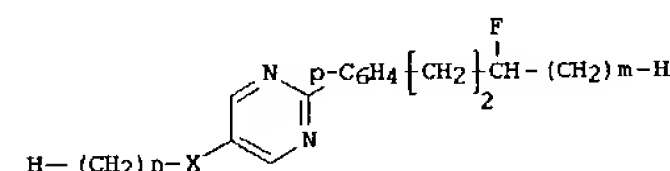
L9 ANSWER 39 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 40 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:225668 CAPLUS
 DOCUMENT NUMBER: 130:252374
 TITLE: Preparation of optically active 3-fluoroalkylphenylpyrimidines for ferroelectric liquid crystals
 INVENTOR(S): Kusumoto, Tetsuo; Kato, Miho; Sato, Kenichi; Hiyama, Tamejiro
 PATENT ASSIGNEE(S): Sagami Chemical Research Center, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 11092457 | A2 | 19990406 | JP 1997-259515 | 19970925 |
| | | | JP 1997-259515 | 19970925 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): CASREACT 130:252374; MARPAT 130:252374
 GI



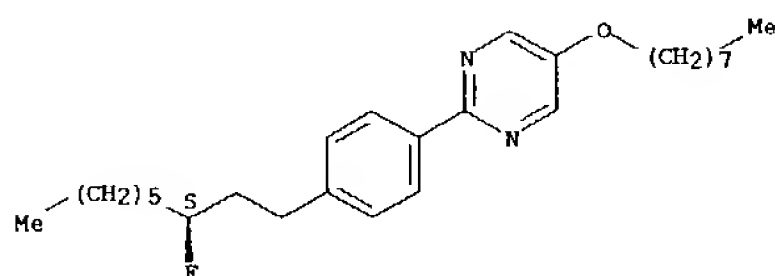
AB Title compds. I (m = 1-16; n = 1-20; X = single bond, O), useful as ferroelec. liquid crystal materials (no data), are prepared by reaction of 4-methylbenzonitrile with optically active Q(CH2)mH (Q = oxiranyl; m = 1-16) in the presence of bases, fluorination of optically active p-NCC6H4CH2CH2CH(OH)(CH2)mH (m = 1-16), reaction of optically active p-NCC6H4CH2CH2CHF(CH2)mH (m = 1-16) with hydrogen halides and alcs., reaction with NH3, reaction with H(CH2)nXC(CHO):CHNMe2 (n, X = same as I). 4-Methylbenzonitrile was reacted with (R)-1,2-epoxyoctane in the presence of (i-Pr)2NH and BuLi in THF at room temperature for 2 h and fluorinated with Et2NSF3 in CH2Cl2 at room temperature to give (S)-4-(3-fluorononyl)benzonitrile, which was reacted with HCl and EtOH in CH2Cl2-ether at room temperature for 4 h, reacted with NH3 at room temperature for 5 days, and cyclized with 3-(N,N-dimethylamino)-2-octyloxyacrolein in a NaOMe/MeOH solution under reflux overnight to give 36% (S)-2-[4-(3-fluorononyl)phenyl]-5-octyloxypyrimidine.

IT 152291-78-6P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation of optically active fluoroalkylphenylpyrimidines by ring opening of oxiranes with methylbenzonitrile, fluorination, and cyclization)

RN 152291-78-6 CAPLUS
 CN Pyrimidine, 2-[4-[(3S)-3-fluorononyl]phenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME)

L9 ANSWER 40 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

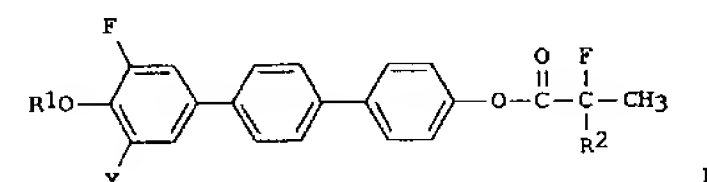
Absolute stereochemistry.



L9 ANSWER 41 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:225664 CAPLUS
 DOCUMENT NUMBER: 130:304132
 TITLE: Optically-active esters, their precursors, their preparation, liquid crystal compositions containing them, and optical switches
 INVENTOR(S): Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko; Hiyama, Tamejiro; Matsui, Junko
 PATENT ASSIGNEE(S): Sagami Chemical Research Center, Japan; Japan Energy K. K.
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 11092451 | A2 | 19990406 | JP 1997-276693 | 19970925 |
| | | | JP 1997-276693 | 19970925 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 130:304132
 GI



AB The optically-active esters I (R = CFMeR2; R1 = C1-18 n-alkyl; R2 = C2-18 n-alkyl; X = N, CH; Y = H, F) (II) are prepared by treatment of I (R = H) with R2CFMeCO2H. Liquid crystal compns. containing ≥1 II and optical switches using ≥1 I are also claimed. Addition of II to base materials gives compns. showing chiral smectic C phase at a wide temperature range, and the compns. are useful for displays, optical printer heads, optical Fourier transform devices, light valves, etc. A mixture of 2-(3-fluoro-4-hexyloxyphenyl)-5-[4-[(S)-2-fluoro-2-methyldecanoyloxy]phenyl]pyrimidine (preparation given) showing a chiral smectic phase between 86-97° and a base liquid crystal composition showed chiral smectic C phase between -14 and 61°.

IT 223136-86-5P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation of optically-active (pyrimidinyl or pyridyl)phenyl fluoromethylalkanoates for electrooptical switches)

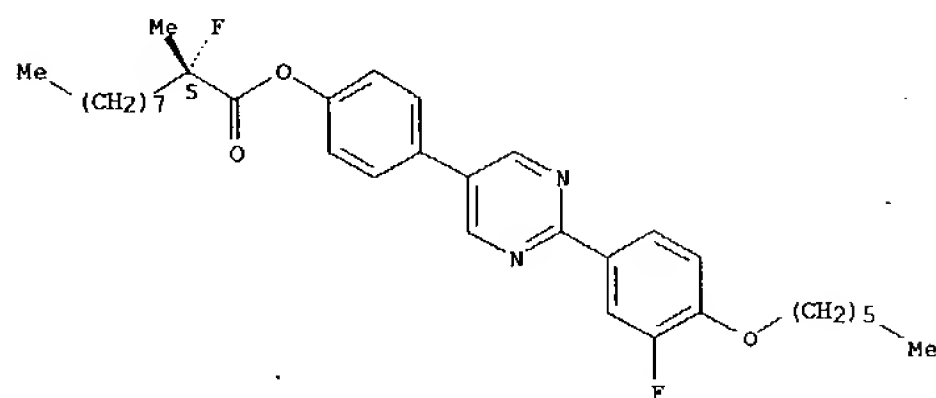
RN 223136-86-5 CAPLUS
 CN Decanoic acid, 2-fluoro-2-methyl-, 4-[2-[3-fluoro-4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

9/811, 359

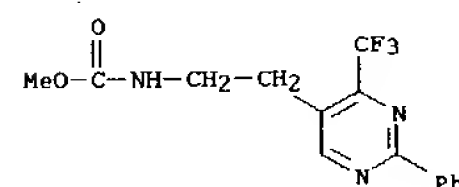
097 835, 523

L9 ANSWER 41 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 42 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

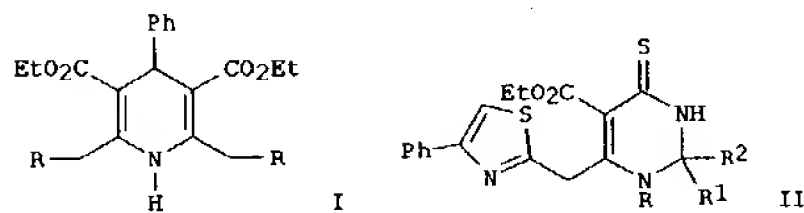
ACCESSION NUMBER: 1999:199457 CAPLUS
 DOCUMENT NUMBER: 130:311758
 TITLE: Heterocyclization of 4-trifluoroacetyl-2,3-dihydropyrroles with hydrazines and amidines: a new access to trifluoromethylated pyrazoles and pyrimidines bearing a β -aminoethyl side chain
 AUTHOR(S): Kawase, Masami; Hirabayashi, Michitaka; Saito, Setsuo; Yamamoto, Katsumi
 CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Josai University, Saitama, 350-0295, Japan
 SOURCE: Tetrahedron Letters (1999), 40(13), 2541-2544
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 130:311758
 AB Trifluoromethylated pyrazoles and pyrimidines have been prepared by condensation of 4-trifluoroacetyl-2,3-dihydropyrroles with hydrazines or amidines as a bifunctional N-nucleophile.
 IT 223520-16-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (heterocyclization of 4-trifluoroacetyl-2,3-dihydropyrroles with hydrazines and amidines)
 RN 223520-16-9 CAPLUS
 CN Carbamic acid, [2-[2-phenyl-4-(trifluoromethyl)-5-pyrimidinyl]ethyl]-, methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 16
 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

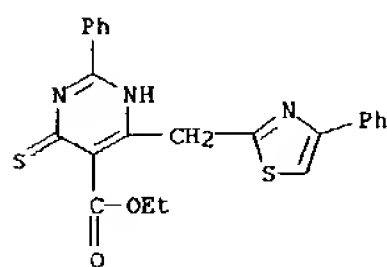
L9 ANSWER 43 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:173278 CAPLUS
 DOCUMENT NUMBER: 130:267400
 TITLE: β -Enamino esters as building blocks in heterocyclic synthesis. A novel synthesis of fused azines by using Blaise reaction as a key step
 AUTHOR(S): Erian, Ayman W.
 CORPORATE SOURCE: Chemistry Department, Faculty Science, Cairo University, Giza, Egypt
 SOURCE: Journal fuer Praktische Chemie (Weinheim, Germany) (1999), 341(2), 147-151
 CODEN: JPCHF4; ISSN: 1436-9966
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 130:267400
 GI



AB BrCH₂CO₂Et reacts with nitriles in the presence of activated Zn dust to afford the β -enamino esters EtO₂CCH=C(NH₂)CH₂R (R = CO₂Et, 4-phenyl-2-thiazolyl (I)). Both the latter show high reactivity towards a variety of reagents to give polyfunctional heterocyclic compds. For example, they react with PhCHO to give the corresponding 1,4-dihydropyridines II. RCONC₅ (R = Ph, OEt) added to I to furnish pyrimidinethiones III (R = H, R₁R₂ = O; RR₁ = bond, R₂ = Ph). Structures and conceivable mechanisms are discussed.

IT 222056-83-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of fused azines from β -enamino esters by Blaise addition reaction)
 RN 222056-83-9 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 1,4-dihydro-2-phenyl-6-[(4-phenyl-2-thiazolyl)methyl]-4-thioxo-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9
 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 43 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

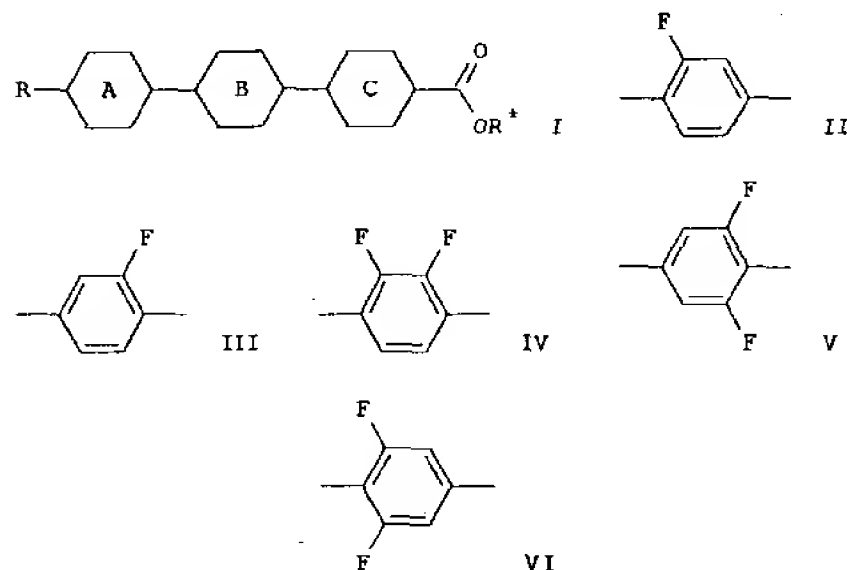
9/811,359

09/835,523

L9 ANSWER 44 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:130924 CAPLUS
 DOCUMENT NUMBER: 130:216260
 TITLE: Chiral terphenyl compound and (anti)ferroelectric liquid crystal composition
 INVENTOR(S): Shundo, Tatsuji; Saito, Shinichi; Okabe, Eiji; Saito, Hideo
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------|------|----------|-----------------|----------|
| JP 11049725 | A2 | 19990223 | JP 1997-219952 | 19970731 |
| PRIORITY APPLN. INFO.: JP 1997-219952 19970731 | | | | |
| OTHER SOURCE(S): MARPAT 130:216260 | | | | |

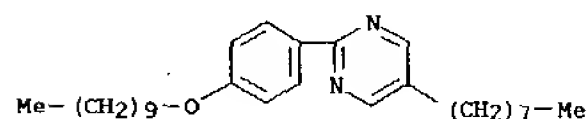
GI



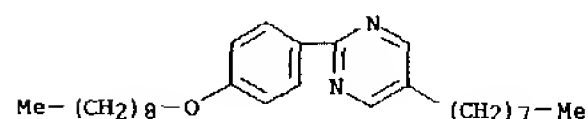
AB The terphenyl represented as I (R = C1-20 alkyl, alkoxy; A, B, C = p-C6H4, F-substituted phenyls II, III, IV, V, VI; R* = CH(R1)(CH2)mOR2; R1 = Me, CF3; R2 = C1-15 alkyl; m = 1-16) is contained in (anti)ferroelec. liquid crystal composition and the composition is used in a liquid crystal display or liquid crystal switching device. The composition shows low threshold voltage of switching among the antiferroelec. stable state and ferroelec. bistable state after transferring from antiferroelec. state.

L9 ANSWER 44 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

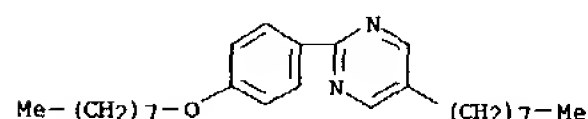
CM 4
 CRN 57202-52-5
 CMF C28 H44 N2 O



CM 5
 CRN 57202-51-4
 CMF C27 H42 N2 O

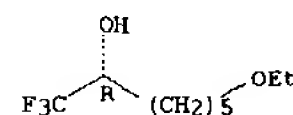


CM 6
 CRN 57202-50-3
 CMF C26 H40 N2 O

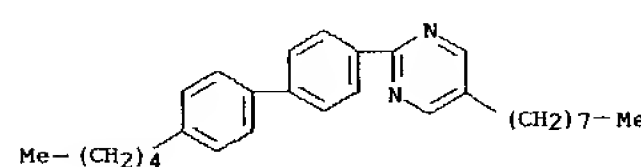


L9 ANSWER 44 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 IT 220929-86-2
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (chiral terphenyl for (anti)ferroelec. liquid crystalline composition for display or switching device)
 RN 220929-86-2 CAPLUS
 CN 2-Heptanol, 7-ethoxy-1,1,1-trifluoro-, (2R)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4'-heptyl[1,1'-biphenyl]-4-yl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4'-pentyl[1,1'-biphenyl]-4-yl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 142385-86-2
 CMF C9 H17 F3 O2

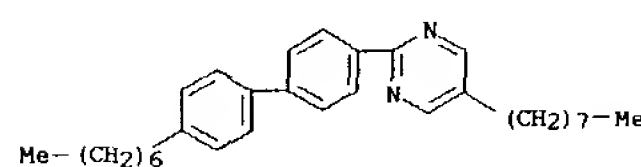
Absolute stereochemistry. Rotation (+).



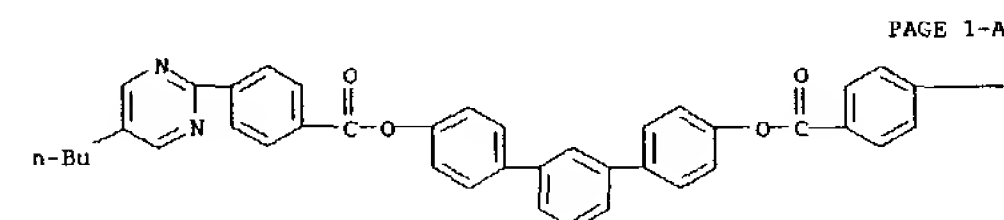
CM 2
 CRN 118266-63-0
 CMF C29 H38 N2



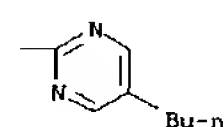
CM 3
 CRN 117433-12-2
 CMF C31 H42 N2



L9 ANSWER 45 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:121831 CAPLUS
 DOCUMENT NUMBER: 130:318814
 TITLE: Designing banana-shaped liquid crystals without Schiff's base units: m-terphenyls, 2,6-diphenylpyridines and V-shaped tolane derivatives
 AUTHOR(S): Shen, Dong; Diele, Siegmund; Pelzl, Gerhard; Wirth, Inar; Tschierske, Carsten
 CORPORATE SOURCE: Institut für Organische Chemie, Martin-Luther-Universität Halle-Wittenberg, Halle, D-06120, Germany
 SOURCE: Journal of Materials Chemistry (1999), 9(3), 661-672
 CODEN: JMACEP; ISSN: 0959-9428
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB This paper reports attempts to obtain (anti)ferroelec. switchable achiral banana-shaped mols. without Schiff's base units. For this purpose the authors synthesized novel V-shaped mols. consisting of rigid angular central units [1,3-disubstituted benzene, 2,7-disubstituted naphthalene, 1,3-diphenylbenzene, 2,6-diphenylnitrobenzene, 2,6-diphenylpyridine, 1,3-bis(phenylethynyl)benzene, 1-phenyl-3-(phenylethynyl)benzene] connected via ester linkages to two rigid cores (1,4-disubstituted benzenes, biphenyls, 2-phenylpyrimidines, phenylbenzoates). Most compds. have rather high m.p.s. Only mols. with seven aromatic rings show liquid crystalline properties. Two-dimensional modulated smectic phases (rectangular columnar phases) were found for mols. with phenylbenzoate rigid units. Intercalated fluid smectic phases were detected for the corresponding 2-phenylpyrimidine derivs. For the 1st time in the case of banana-shaped mols. a nematic phase was observed for a 2'-nitro-m-terphenyl-4,4'-diyl bisbenzoate. However, none of the synthesized compds. exhibit the typical texture of the (anti)ferroelec. switchable mesophases, known from the Schiff's base derivs.
 IT 223654-63-5P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and liquid crystal properties of)
 RN 223654-63-5 CAPLUS
 CN Benzoic acid, 4-(5-butyl-2-pyrimidinyl)-, [1,1':3',1''-terphenyl]-4,4''-diyl ester (9CI) (CA INDEX NAME)



PAGE 1-A

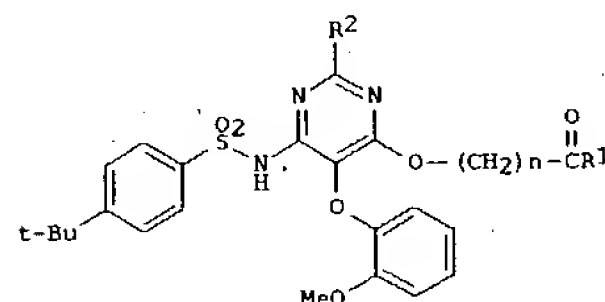


PAGE 1-B

9/811, 359

19 ANSWER 46 OF 573 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1999:114150 CAPLUS
DOCUMENT NUMBER: 130:218301
TITLE: Endothelin antagonistic pyrimidines and pharmaceutical
compositions containing them
INVENTOR(S): Hirata, Mitsuteru; Deushi, Takeo; Takahashi, Yoshio;
Ohshima, Takeshi; Oda, Toshiaki; Ishikawa, Tetsuya;
Ozaki, Chiyoaka; Shirato, Shozo
PATENT ASSIGNEE(S): Kowa Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 11043482 | A2 | 19990216 | JP 1997-201354 | 19970728 |
| PRIORITY APPLN. INFO.: | | JP | 1997-201354 | 19970728 |
| OTHER SOURCE(S): | | MARPAT 130:218301 | | |
| GI | | | | |

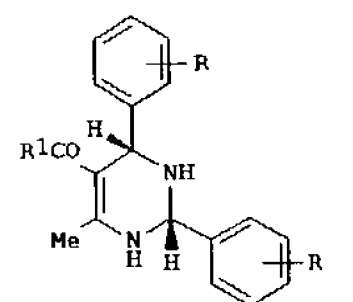
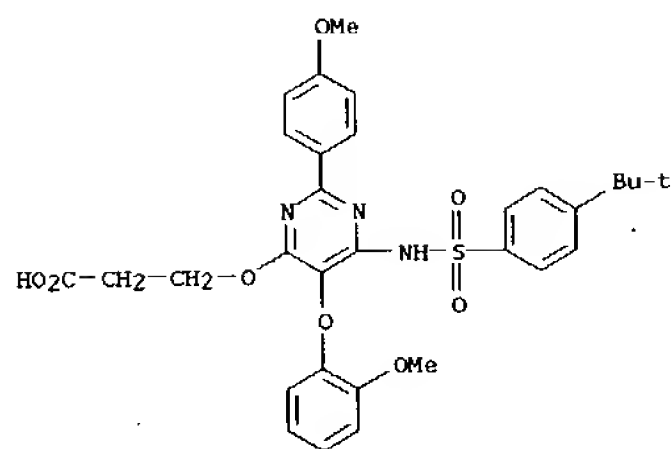


AB Pharmaceutical compns., useful for treatment of circulatory diseases, contain pyrimidines I [R1 = OR3, NR4R5; R2 = C6H3R6R7, pyridyl; R3 = H, lower alkyl, benzyl; R4, R5 = H, lower alkyl, (substituted) Ph, (substituted) aralkyl, (substituted) heterocyclyl; R6, R7 = H, lower alkyl, lower alkoxy; R6R7 = OCH2O; n = 1, 2] or their salts. 4-Tert-butyl-N-[6-(3-hydroxypropyloxy)-5-(2-methoxyphenoxy)-2-(4-methoxyphenyl)-4-pyrimidinyl]benzenesulfonamide was oxidized by pyridinium dichromate in DMF at room temperature overnight to give 62% I (R1 = OH, R2 = C6H4OMe-p, n = 2), which in vitro inhibited binding of 125I-endothelin-1 to endothelin A receptor of pig aorta smooth muscle or that to endothelin B receptor of rat brain with IC50 of 23.8 or 0.22 μ M, resp.

IT 1T10-14-1P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BTOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of pyrimidines as endothelin antagonists)

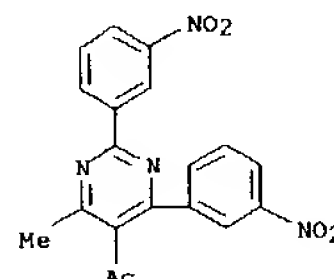
RN 1T10-14-1 CAPLUS
 CN Propanoic acid, 3-[[[6-[[[4-(1,1-dimethylethyl)phenyl]sulfonyl]amino]-5-(2-methoxyphenoxy)-2-(4-methoxyphenyl)-4-pyrimidinyl]oxy]- (9CI) (CA INDEX

19 ANSWER 47 OF 573 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1999:109593 CAPLUS
DOCUMENT NUMBER: 130:252326
TITLE: Diastereomeric 5-acyl-6-methyl-2,4-bis(3- and
4-nitrophenyl)-1,2,3,4-tetrahydropyrimidines,
byproducts of the Hantzsch dihydropyridine synthesis
AUTHOR(S): Goerlitzer, K.; Heinrici, C.; Ernst, L.
CORPORATE SOURCE: Inst. Pharmazeutische Chem., Technische Univ.
Braunschweig, Braunschweig, D-38106, Germany
SOURCE: Pharmazie (1999), 54(1), 35-41
CODEN: PHARAT; ISSN: 0031-7144
Govi-Verlag Pharmazeutischer Verlag
PUBLISHER: Journal
DOCUMENT TYPE: German
LANGUAGE: CASREACT 130:252326
OTHER SOURCE(S):
GI



AB The racemic cis-1,2,3,4-tetrahydropyrimidines I ($R = 3\text{-NO}_2$, 4-NO_2 ; $R_1 = \text{Me}$, OMe , OEt) are obtained by variation of the Hantzsch dihydropyridine synthesis, while trans isomers could be isolated only as byproducts from the reaction of 4-O $2\text{NC}_6\text{H}_4\text{CH}:\text{C}(\text{CO}_2\text{R})_2$ ($R = \text{Me}$, Et) with 4-O $2\text{NC}_6\text{H}_4\text{CHO}$. Dehydrogenation of the tetrahydropyrimidines with activated MnO_2 yields the corresponding pyrimidines and in some cases also dihydropyrimidines. The tetrahydropyrimidines react with HNO_2 to give 3-N-nitrosamines. The latter exist as rotamers with (E)-preference as proved by NMR.

IT 221558-06-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of (nitrophenyl)hydropyrimidines as byproducts of Hantzsch
 hydropyridine synthesis)
 RN 221558-06-1 CAPLUS
 CN Ethanone, 1-[4-methyl-2,6-bis(3-nitrophenyl)-5-pyrimidinyl]- (9CI) (CA
 INDEX NAME)



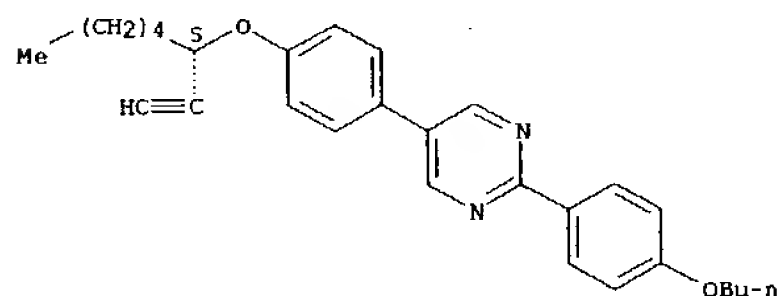
9/811, 309

09/ 835,523

L9 ANSWER 47 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

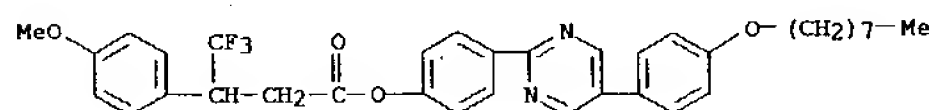
L9 ANSWER 48 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:79514 CAPLUS
 DOCUMENT NUMBER: 130:189722
 TITLE: Novel ferroelectric liquid crystals based on optically active propargylic alcohols
 AUTHOR(S): Lunkwitz, Ralph; Tschierske, Carsten; Langhoff, Arne; Giesselmann, Frank
 CORPORATE SOURCE: Institute of Organic Chemistry, Martin-Luther-University Halle, Halle, D-06120, Germany
 SOURCE: Liquid Crystals (1999), 26(1), 131-134
 CODEN: LICRE6; ISSN: 0267-8292
 PUBLISHER: Taylor & Francis Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Some new calamitic chiral mesogens (2,5-diphenyl-1,3,4-thiadiazoles, 2,5-diphenylpyrimidines and a biphenyl benzoate) incorporating the 1-alkylpropynyl moiety were synthesized as enantiomerically enriched materials (.apprx.87%) and/or as racemates. Their liquid crystalline properties were studied by polarizing microscopy, DSC and electrooptical study. Most of the new compds. exhibit smectic C phases. The spontaneous polarization (Ps) of the optically active materials is .apprx.10 nC cm-2.
 IT 220595-19-7P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and liquid crystal properties of)
 RN 220595-19-7 CAPLUS
 CN Pyrimidine, 2-(4-butoxyphenyl)-5-[4-[[1(5)-1-ethynylhexyl]oxy]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 49 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:79487 CAPLUS
 DOCUMENT NUMBER: 130:189719
 TITLE: A novel liquid crystal showing antiferroelectric smectic C* and twist grain boundary phases
 AUTHOR(S): Aoki, Yoshio; Nohita, Hiroyuki
 CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Saitama University, Urawa, Saitama, 338, Japan
 SOURCE: Liquid Crystals (1999), 26(1), 97-100
 CODEN: LICRE6; ISSN: 0267-8292
 PUBLISHER: Taylor & Francis Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A novel antiferroelec. liquid crystal, 4-[5-(4-octyloxyphenyl)-2-pyrimidinyl]phenyl 4,4,4-trifluoro-3-(4-methoxyphenyl)butanoate (TFMB) showing twist grain boundary phases was found and studied. In optically active TFMB, a diffuse liquid-liquid transition was observed above the clearing point. TFMB exhibited a stable antiferroelec. smectic C* phase. The relation between antiferroelectricity and the mol. structure is discussed.
 IT 220575-44-0
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (liquid crystal phase behavior of)
 RN 220575-44-0 CAPLUS
 CN Benzenepropanoic acid, 4-methoxy-β-(trifluoromethyl)-, 4-[5-[4-(octyloxy)phenyl]-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

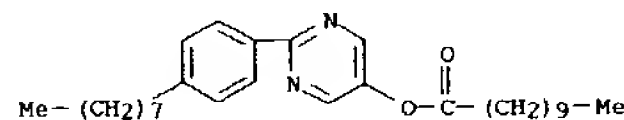
L9 ANSWER 50 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:816657 CAPLUS
 DOCUMENT NUMBER: 130:118347
 TITLE: Ferroelectric liquid-crystal composition containing aromatic heterocyclic compounds
 INVENTOR(S): Shiratori, Nobuyuki; Ushikubo, Kohei; Fukushima, Akiyuki; Matsui, Junko; Yoshizawa, Atsushi
 PATENT ASSIGNEE(S): Japan Energy K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 10338878 | A2 | 19981222 | JP 1997-163567 | 19970606 |
| PRIORITY APPLN. INFO.: | | JP 1997-163567 19970606 | | |
| OTHER SOURCE(S): | | MARPAT 130:118347 | | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains aromatic heterocyclic compds. I, II, III, and IV (R1, 3, 5 = C1-18 alkyl, alkoxy; R2, 4, 6 = C1-18 alkyl; X1 = O, OCO, OCO2; Rf = C1-2 fluoroalkyl; R7 = C3-20 alkyl; R8-10 = H, C1-15 alkyl, C2-15 alkenyl, C7-10 aralkyl; X2 = CO2, O, direct bond; X3 = CO2, OCO, CH2O, OCH2, C.tplbond.C, direct bond; X4 = CO2, CH2O, O; X5 = O, OCO; A, B = halogen, cyano, 6-membered ring compound; p, q, n = 0, 1). An optical switching device containing the composition is also claimed. The composition shows a chiral smectic liquid-crystal phase in a wide-temperature range, rapid response, and low threshold value voltage.

IT 219622-69-2
 RL: DEV (Device component use); USES (Uses)
 (ferroelec. liquid-crystal composition containing aromatic heterocyclic compds. for optical switching device)
 RN 219622-69-2 CAPLUS
 CN Undecanoic acid, 2-(4-octylphenyl)-5-pyrimidinyl ester (9CI) (CA INDEX NAME)

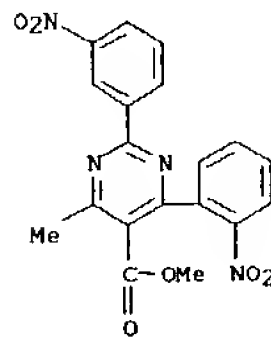


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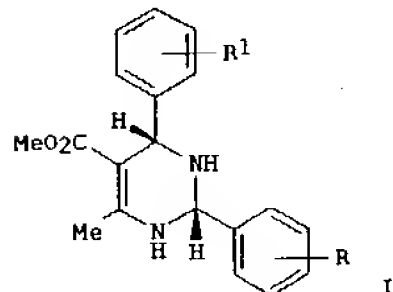
097 835,523

L9 ANSWER 51 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:807137 CAPLUS
 DOCUMENT NUMBER: 130:95528
 TITLE: Chemical and photochemical stability of
 2,4-bisaryl-1,2,3,4-tetrahydropyrimidines with
 nitrophenyl groups in different positions
 AUTHOR(S): Goerlitzer, K.; Heinrich, C.
 CORPORATE SOURCE: Inst. Pharmazeutische Chemie, Technische Univ.
 Braunschweig, Braunschweig, D-38106, Germany
 SOURCE: Pharmazie (1998), 53(12), 843-847
 CODEN: PHARAT; ISSN: 0031-7144
 PUBLISHER: Govi-Verlag Pharmazeutischer Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 130:95528
 GI

L9 ANSWER 51 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

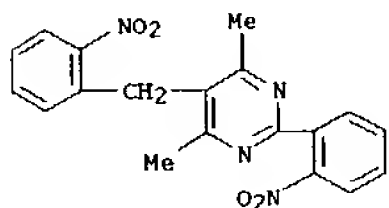


REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



AB The cis-2,4-bis(nitrophenyl)-1,2,3,4-tetrahydropyrimidine-5-carboxylates I (R = 3-NO₂, R₁ = 2-NO₂; R = 2-NO₂, R₁ = 3-NO₂; R = 2-NO₂, R = 4-NO₂) were obtained from the reaction of 2-(nitrobenzylidene)acetoacetates with nitrobenzaldehydes and NH₄OAc. Dehydrogenation of I with MnO₂ yielded the corresponding pyrimidines. The resp. 1,4-dihydropyrimidine could be caught as an intermediate. Compound I (R = 2-NO₂, R₁ = 3-NO₂) is dehydrogenated by KMnO₄ to form the corresponding pyrimidine and a pyrimido[1,2-b]indazole as a byproduct. Compds. I reacted with HNO₂ to give N-nitrosamines, which exist as E/Z-rotamers. Irradiation of I (R = 3-NO₂, R₁ = 2-NO₂) with UV-A light yielded a pyrimido[1,6-b]indazole, while from I (R = 2-NO₂, R₁ = 3-NO₂) a pyrimido[1,2-b]indazole was received.
 IT 219584-76-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, oxidation, and photostability of nitrophenylated
 hydropyrimidines)
 RN 219584-76-6 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-methyl-6-(2-nitrophenyl)-2-(3-nitrophenyl)-
 , methyl ester (9CI) (CA INDEX NAME)

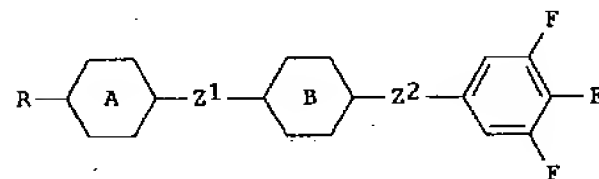
L9 ANSWER 52 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:776693 CAPLUS
 DOCUMENT NUMBER: 130:81483
 TITLE: Photochemistry of cis-5-acetyl-6-methyl-2,4-bis(2-nitrophenyl)-1,2,3,4-tetrahydropyrimidine
 AUTHOR(S): Goerlitzer, K.; Heinrich, C.; Ernst, L.
 CORPORATE SOURCE: Inst. Pharmazeutische Chem., Univ. Braunschweig,
 Braunschweig, D-38106, Germany
 SOURCE: Pharmazie (1998), 53(11), 766-771
 CODEN: PHARAT; ISSN: 0031-7144
 PUBLISHER: Govi-Verlag Pharmazeutischer Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 130:81483
 AB Irradiation of the title compound does not yield the previously postulated 2,4-bis(2-nitrosophenyl)pyrimidine, but isomeric pyrimido[1,2-b]indazoles, a pyrimido[1,6-b]indazole, and a pyrimido[5,4-b]indole. Their structures are elucidated by 2D-NMR techniques.
 IT 218967-68-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of (nitrophenyl)hydropyrimidine)
 RN 218967-68-1 CAPLUS
 CN Pyrimidine, 4,6-dimethyl-2-(2-nitrophenyl)-5-[(2-nitrophenyl)methyl]-
 (9CI) (CA INDEX NAME)



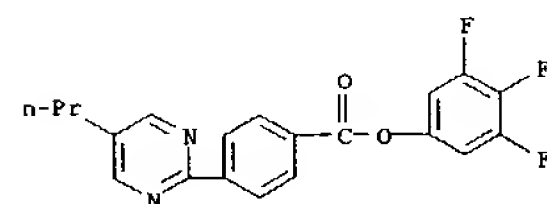
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 53 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:768211 CAPLUS
 DOCUMENT NUMBER: 130:74150
 TITLE: Trifluorophenyl-containing liquid-crystal compound
 INVENTOR(S): Matsui, Shuichi; Kondo, Tomoyuki; Haseba, Yasuhiro;
 Tamura, Noriaki; Takeuchi, Hiroyuki; Miyazawa,
 Kazutoshi
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------|------|------------------|-----------------|----------|
| JP 10316969 | A2 | 19981202 | JP 1997-141206 | 19970516 |
| PRIORITY APPL. INFO. | | | JP 1997-141206 | 19970516 |
| OTHER SOURCE(S): | | MARPAT 130:74150 | | |
| GI | | | | |



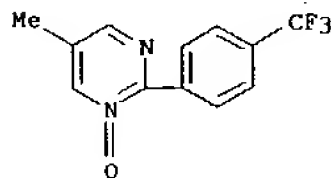
AB The compound contains a trifluorophenyl-containing compound I (R = C1-20 alkyl, alkoxy; A, B = 1,4-cyclohexylene, 1,4-phenylene, 1,3-dioxane-2,5-diyl, pyrimidine-2,5-diyl; Z1, Z2 = direct bond, CH₂CH₂, CO₂). The compound has high neg. dielec. anisotropy and shows good compatibility with other liquid crystal compds.
 IT 218163-60-1P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (liquid crystal containing trifluorophenyl compound)
 RN 218163-60-1 CAPLUS
 CN Benzoic acid, 4-(5-propyl-2-pyrimidinyl)-, 3,4,5-trifluorophenyl ester (9CI) (CA INDEX NAME)



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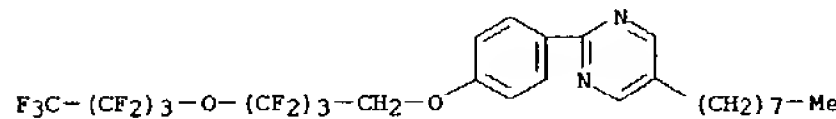
9/811,359

L9 ANSWER 54 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:753140 CAPLUS
 DOCUMENT NUMBER: 130:125039
 TITLE: New approach to the synthesis of pyrimidine 1-oxides
 AUTHOR(S): Stefane, Bogdan; Mlakar, Biserka; Polanc, Slovenko; Kocevar, Marijan
 CORPORATE SOURCE: Fakulteta za Kemijo in Kemijsko Tehnologijo, Univerza v Ljubljani, Ljubljana, Slovenia
 SOURCE: Zbornik Referatov s Posvetovanja Slovenski Kemijski Dnevi. Maribor, Slovenia, Sept. 17-18, 1998 (1998), 208-213. Editor(s): Glavic, Peter; Brodnjak-Voncina, Darinka. Fakulteta za Kemijo in Kemijsko Tehnologijo Univerze v Mariboru: Maribor, Slovenia.
 CODEN: 662NAA
 DOCUMENT TYPE: Conference
 LANGUAGE: Slovenian
 AB A conference report on a synthesis of pyrimidine N-oxides involving carboxamide oximes and carbonyl compds. or their analogs as starting materials.
 IT 206882-55-5P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 206882-55-5 CAPLUS
 CN Pyrimidine, 5-methyl-2-[4-(trifluoromethyl)phenyl]-, 1-oxide (9CI) (CA INDEX NAME)

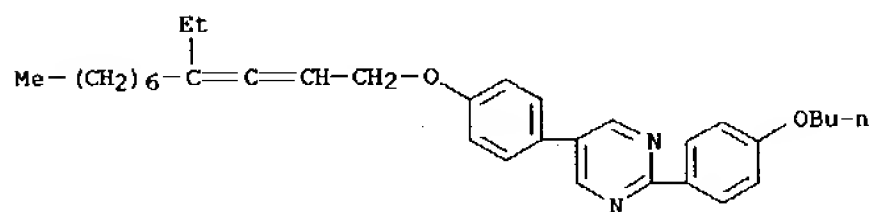


L9 ANSWER 55 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:735250 CAPLUS
 DOCUMENT NUMBER: 130:31245
 TITLE: Liquid crystal element
 INVENTOR(S): Maruyama, Tomoko; Yanagi, Michio
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 10301116 | A2 | 19981113 | JP 1997-111493 | 19970428 |
| PRIORITY APPLN. INFO.: JP 1997-111493 19970428 | | | | |
| OTHER SOURCE(S): MARPAT 130:31245 | | | | |
| AB The liquid crystal element comprises a chiral smectic liquid crystal, the pair of substrates interposing the liquid crystal, an orientation film formed on at least one of the substrates, and an island-shape metal layer which is formed on at least one of the orientation film to reduce polar component of the surface energy. The island-shape layer may be made from Au, Ag, Pd, or Cu. The liquid crystal containing F does not show the cholesteric phase when temperature decreases. | | | | |
| IT 152915-24-7 RL: DEV (Device component use); USES (Uses) (chiral smectic liquid crystal for liquid crystal display) | | | | |
| RN 152915-24-7 CAPLUS | | | | |
| CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME) | | | | |



L9 ANSWER 56 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:728923 CAPLUS
 DOCUMENT NUMBER: 130:31446
 TITLE: Axial chiral liquid crystals. Synthesis of trisubstituted allenyl ethers
 AUTHOR(S): Lunkwitz, Ralf; Zab, Kerstin; Tschierske, Carsten
 CORPORATE SOURCE: Inst. Organic Chem., Martin-Luther-Univ., Halle/Saale, D-06120, Germany
 SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung (1998), 340(7), 662-668
 CODEN: JPCCEM; ISSN: 0941-1216
 PUBLISHER: Johann Ambrosius Barth
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis of racemic and enantiomeric enriched axial chiral liquid crystalline compds. incorporating a trisubstituted allene unit is described. All compds. display the smectic C-phase and mostly also a nematic mesophase. All investigated enantiomerically enriched compds. have a ferroelec. switchable chiral smectic SC* phase.
 IT 216364-01-1P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation and liquid crystal properties of)
 RN 216364-01-1 CAPLUS
 CN Pyrimidine, 2-(4-butoxyphenyl)-5-[4-[(4-ethyl-2,3-undecadienyl)oxy]phenyl]- (9CI) (CA INDEX NAME)

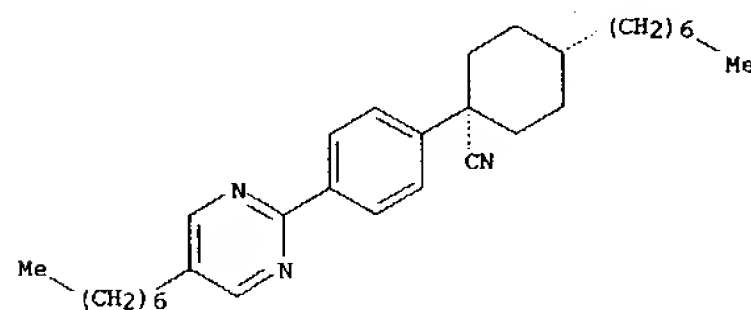


REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 57 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:689345 CAPLUS
 DOCUMENT NUMBER: 129:283514
 TITLE: Electroluminescent liquid crystal devices
 INVENTOR(S): Poetsch, Eike; Weber, Georg; Derow, Stephan
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| DE 19809944 | A1 | 19981001 | DE 1998-19809944 | 19980307 |
| PRIORITY APPLN. INFO.: EP 1997-105199 A 19970327 | | | | |
| AB Electroluminescent liquid crystal devices comprising ≥1 layers, ≥1 of which includes a liquid crystal medium comprising compds. having electroluminescent and/or charge transport properties are described which are driven by an a.c. voltage. Use of the devices as display devices, as sources of polarized or unpolarized and/or colored light, or as active elements in electrooptical devices is also described. | | | | |
| IT 213969-60-9 RL: DEV (Device component use); USES (Uses) (electroluminescent liquid crystal devices driven by an a.c. voltage) | | | | |
| RN 213969-60-9 CAPLUS | | | | |
| CN [1,1'-Bicyclohexyl]-4-carbonitrile, 4'-pentyl-4-[4-(5-propyl-2-pyrimidinyl)phenyl]-, (cis,trans)-, mixt. with 2-(4-ethylphenyl)-5-propylpyrimidine, cis-4-heptyl-1-[4-(5-heptyl-2-pyrimidinyl)phenyl]cyclohexanecarbonitrile, 2-(4-methylphenyl)-5-propylpyrimidine and 5-propyl-2-(4-propylphenyl)pyrimidine (9CI) (CA INDEX NAME) | | | | |
| CM 1 | | | | |
| CRN 213969-59-6 | | | | |
| CMF C31 H45 N3 | | | | |

Relative stereochemistry.



CM 2

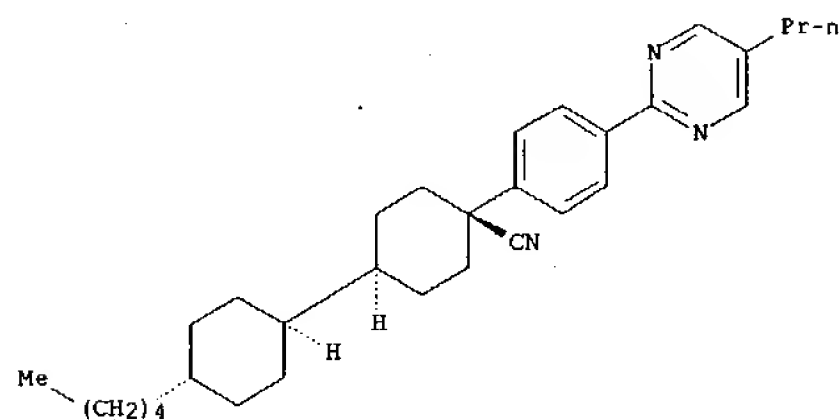
CRN 213969-58-5
 CMF C31 H43 N3

Relative stereochemistry.

9/811,359

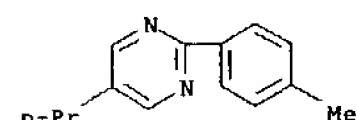
09/ 835,523

L9 ANSWER 57 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



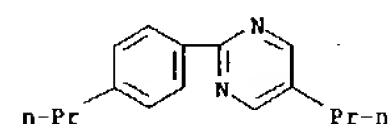
CM 3

CRN 143913-45-5
CMF C14 H16 N2



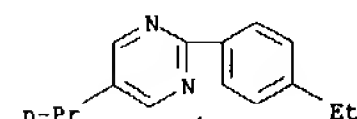
CM 4

CRN 98495-13-7
CMF C16 H20 N2

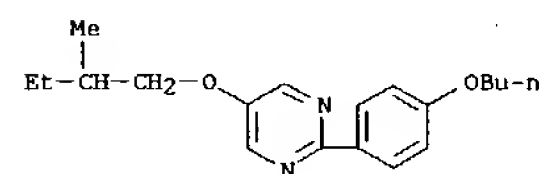


CM 5

CRN 98495-11-5
CMF C15 H18 N2

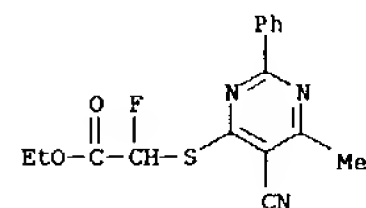


L9 ANSWER 58 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:688768 CAPLUS
DOCUMENT NUMBER: 130:88498
TITLE: Synthesis and properties of chiral 2-phenylpyrimidine liquid crystalline compounds
AUTHOR(S): Shang, Yongjia; Lu, Wanfang; Lu, Youmei; Ding, Hui
CORPORATE SOURCE: Department of Chemistry, Nanjing University, Nanjing, 210093, Peop. Rep. China
SOURCE: Gongneng Cailiao (1998), 29(4), 415-419
CODEN: GOCARA; ISSN: 1001-9731
PUBLISHER: Gongneng Cailiao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Three series, II-IV, of chiral 2-phenylpyrimidine with 2 alkyloxy terminal groups were synthesized. The chemical structures of all compds. were determined by IR, 1H-NMR, MS, and elemental anal., and their liquid crystal properties were tested by POM and DSC. They all had a smectic phase, some of them had a chiral smectic C phase (Sc) near room temperature. The effect of different terminal groups on the mesomorphic properties is discussed.
IT 218770-15-1P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(chiral: synthesis and liquid crystal properties of)
RN 218770-15-1 CAPLUS
CN Pyrimidine, 2-(4-butoxyphenyl)-5-(2-methylbutoxy)- (9CI) (CA INDEX NAME)



L9 ANSWER 57 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 59 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:644227 CAPLUS
DOCUMENT NUMBER: 130:38315
TITLE: An Easy Direct Conversion of Pyridine- and Pyrimidinethiones into Multi-Fused Heterocyclic Compounds
AUTHOR(S): Erian, Ayman Wahba; Abu-Shanab, Fathi Ali
CORPORATE SOURCE: Dep. Chem., Fac. Sci., Cairo University, Giza, Egypt
SOURCE: Bulletin of the Chemical Society of Japan (1998), 71(10), 2387-2391
CODEN: BCSJAB; ISSN: 0009-2673
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 130:38315
AB The reaction of azine-thiones with Et chlorofluoroacetate afforded 2-fluorothienoazines. The latter underwent self-condensation and gave multi-fused heterocyclic compds. A wide range of unique heterocycles could be obtained on treatment of 2-fluorothienoazines with nitrogen nucleophilic reagents. The reactivity of the pyrimidinethiones towards a variety of electrophilic reagents was studied.
IT 216776-67-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(conversion of pyridine- and pyrimidinethiones into multi-fused heterocyclic compds.)
RN 216776-67-9 CAPLUS
CN Acetic acid, [(5-cyano-6-methyl-2-phenyl-4-pyrimidinyl)thio]fluoro-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

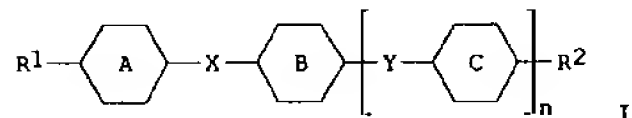
9/811, 359

09/ 835,523

L9 ANSWER 60 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:614443 CAPLUS
DOCUMENT NUMBER: 129:308879
TITLE: Ferroelectrically smectic liquid-crystal composition with IR transmittance
INVENTOR(S): Okabe, Eiji; Saito, Shinichi; Shunto, Tatsuji; Saito, Hideo
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

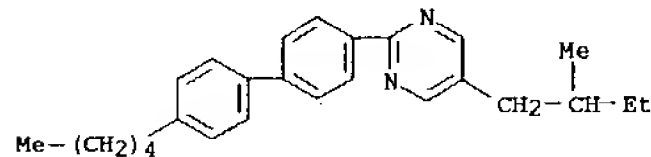
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 10251643 | A2 | 19980922 | JP 1997-72709 | 19970310 |
| PRIORITY APPLN. INFO.: | | | JP 1997-72709 | 19970310 |
| OTHER SOURCE(S): | | MARPAT 129:308879 | | |

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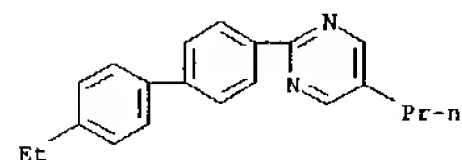


AB The composition shows mol. absorption coefficient ≤ 200 in an IR region with wave number 1000 ± 150 cm⁻¹. The composition contains at least 80% compound having a formula I (A, B, C = benzene, pyridine, pyrimidine, pyrazine, pyridazine; X, Y = direct bond, CH₂O, OCH₂; R1, 2 = C5-16 alkyl, alkoxy; n = 0, 1). The composition shows high IR transmittance. A liquid-crystal device containing the composition is also claimed. The device is useful for a chopper in an IR sensor.

IT 151864-05-0
RL: DEV (Device component use); USES (Uses)
(ferroelec. smectic liquid-crystal composition for IR sensor)
RN 151864-05-0 CAPLUS
CN Pyrimidine, 5-(2-methylbutyl)-2-(4'-pentyl[1,1'-biphenyl]-4-yl)- (9CI)
(CA INDEX NAME)



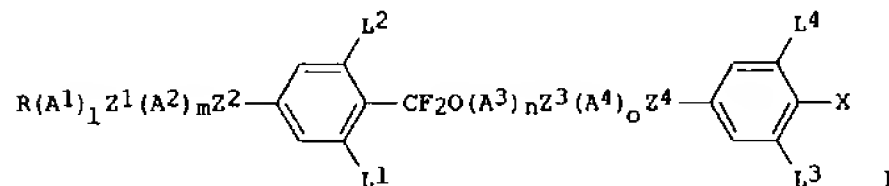
L9 ANSWER 61 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 61 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:614232 CAPLUS
DOCUMENT NUMBER: 129:296227
TITLE: Halo-substituted benzene derivative, and liquid-crystal composition and display device using it
INVENTOR(S): Kobayashi, Katsuhiko; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 117 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 10251186 | A2 | 19980922 | JP 1997-72708 | 19970310 |
| PRIORITY APPLN. INFO.: | | | JP 1997-72708 | 19970310 |
| OTHER SOURCE(S): | | MARPAT 129:296227 | | |

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AB The halo-substituted benzene derivative comprises I [A1-A4 = trans-1,4-cyclohexylene; (halo-substituted) 1,4-phenylene, trans-1,3-dioxane-2,5-diyl, pyrimidine-2,5-diyl; A3 = trans-1,4-cyclohexylene; Z1-4 = single bond, (CH₂)₂, (CH₂)₄, CF₂O, CH₂O, CO₂; L1-4 = H, halo; X = H, halo, CN, (substituted) halogenated C1-5 alkyl; R = (substituted) C1-10 alkyl; l, m, n, o = 0, 1; l + m + n + o ≤ 2]. The liquid-crystal composition and the display device using I with good compatibility for other liquid-crystal compns. are also claimed. A display device using the composition with high and stable anisotropy of dielec. constant and low viscosity showed low driving voltage.

IT 175859-31-1D, mixture containing
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(halo-substituted benzene derivative with high anisotropy of dielec. constant for liquid-crystal display)
RN 175859-31-1 CAPLUS
CN Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)

L9 ANSWER 62 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:608604 CAPLUS
DOCUMENT NUMBER: 129:216625
TITLE: Preparation of pyrimidinecarboxylates for treating inflammatory conditions
INVENTOR(S): Suto, Mark J.; Gayo, Leah M.; Palanki, Moorthy S. S.; Ransone-Fong, Lynn J.
PATENT ASSIGNEE(S): Signal Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 95 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|-------------|
| WO 9838171 | A1 | 19980903 | WO 1998-US3616 | 19980224 |
| W: AU, CA, JP | | | | |
| US 5935966 | A | 19990810 | US 1997-807677 | 19970227 |
| AU 9866667 | A1 | 19980918 | AU 1998-66667 | 19980224 |
| PRIORITY APPLN. INFO.: | | | US 1997-807677 | A 19970227 |
| | | | US 1995-3109P | P 19950901 |
| | | | US 1995-574406 | A2 19951218 |
| | | | WO 1996-US14089 | W 19960830 |
| | | | WO 1998-US3616 | W 19980224 |
| OTHER SOURCE(S): | | MARPAT 129:216625 | | |

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I: R2 = R2a when R4 = R4a, and R2 = R2b when R4 = R4b; R2b, R4a = H, halo, C1-8 alkyl, etc.; R2a, R4b = II-V; R5 = CO₂R7, C(O)R8, etc.; R6 = H, Me, PhCH₂, F, CF₃; R7 = H, C1-8 alkyl, etc.; R8 = (un)substituted C1-8 alkyl, C6-12 aryl, C7-12 aralkyl; R9 = H, C1-8 alkyl, etc.; R10, R11 = H, (un)substituted C1-8 alkyl, C6-12 aryl], useful as anti-inflammatory agents in general and, more specifically, for the prevention and/or treatment of immunoinflammatory and autoimmune diseases such as rheumatoid arthritis, osteoarthritis, transplant rejection, sepsis, ARDS, asthma, multiple sclerosis, psoriasis, inflammatory bowel disease, glomerulonephritis, lupus, uveitis, chronic hepatitis, trauma, oxidative stress, cell death, irradiation damage, ischemia, reperfusion, cancer, and viral infection, were prepared. Thus, reaction of Et 2-hydrazino-4-trifluoromethylpyrimidine-5-carboxylate with citraconic anhydride in CHCl₃ afforded 39% I [R2 = III (R9 = R11 = H; R10 = Me); R4 = CF₃; R5 = H; R6 = CO₂Et] which showed IC₅₀ of 0.7 μ M against activation of transcription factors NF κ B and AP-1.

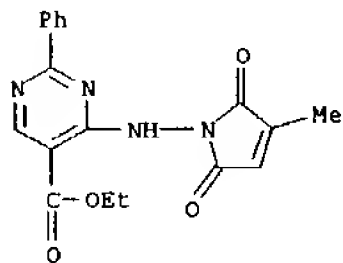
IT 188936-99-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyrimidinecarboxylates for treating inflammatory conditions)

RN 188936-99-4 CAPLUS
CN 5-Pyrimidinecarboxylic acid, 4-[(2,5-dihydro-3-methyl-2,5-dioxo-1H-pyrrol-1-yl)amino]-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)

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L9 ANSWER 62 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

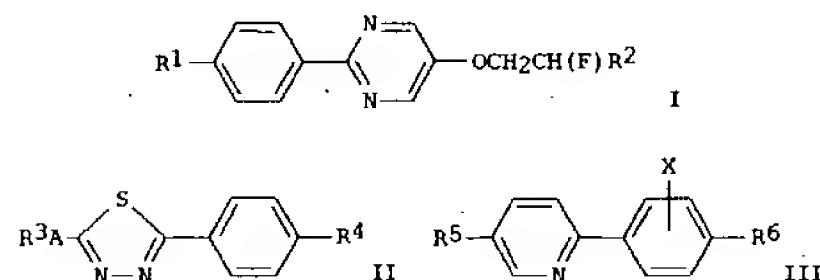


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

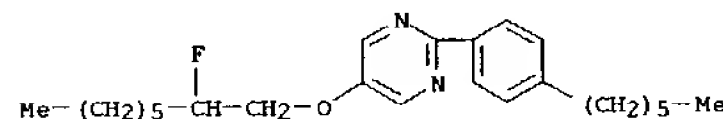
L9 ANSWER 63 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:586487 CAPLUS
DOCUMENT NUMBER: 129:268250
TITLE: Ferroelectric liquid-crystal composition, ferroelectric liquid-crystal device, and its driving method
INVENTOR(S): Kaneko, Takashi; Kodan, Mitsuhiko; Okabe, Elji; Shunto, Tatsuji; Saito, Shinichi; Saito, Hideo
PATENT ASSIGNEE(S): Sharp Corp., Japan; Chisso Corp.
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------|------|----------|-----------------|----------|
| JP 10237447 | A2 | 19980908 | JP 1997-46528 | 19970228 |
| PRIORITY APPLN. INFO.: | | | JP 1997-46528 | 19970228 |
| OTHER SOURCE(S): MARPAT 129:268250 | | | | |
| GI | | | | |



AB The composition contains an aromatic compound I (R1 = C4-16 alkyl; R2 = C2-12 alkyl), II (R3, 4 = C1-15 alkyl, alkoxy; A = Ph, C6H8, direct bond), and III (R5, 6 = C1-18 alkyl, alkoxy; X = H, F). The device contains the composition. Driving method of the device is also claimed. The composition shows large temperature-dependency of self-polarization, so that the device shows small temperature-dependency of response speed and wide temperature margin.
IT 155430-65-2
RL: DEV (Device component use); USES (Uses)
(ferroelec. liquid crystal display device with large temperature-dependency of self-polarization)
RN 155430-65-2 CAPLUS
CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-hexylphenyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 63 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

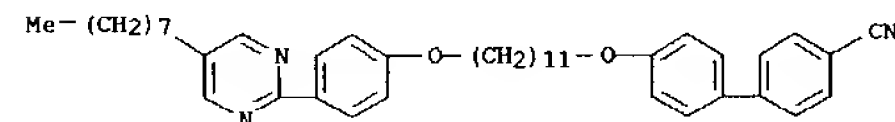
L9 ANSWER 64 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:586279 CAPLUS
DOCUMENT NUMBER: 129:268279
TITLE: Asymmetric twin compound and smectic liquid crystal composition containing it
INVENTOR(S): Yoshizawa, Atsushi; Okada, Tomomi
PATENT ASSIGNEE(S): Japan Energy K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------|------|----------|-----------------|----------|
| JP 10237002 | A2 | 19980908 | JP 1997-57096 | 19970226 |
| PRIORITY APPLN. INFO.: | | | JP 1997-57096 | 19970226 |
| OTHER SOURCE(S): MARPAT 129:268279 | | | | |

AB The asym. compound comprise RAYBO(CH2)nO-1,4-C6H4-1,4-C6H4X (I; R = alkyl, alkoxy; A, B = pyrimidine, Ph, pyridine, cyclohexane, cyclohexene; Y = none, ester linkage; X = cyano, CF3, CF3O, F, NO2, MeO; n = 2-18). The smectic liquid-crystal composition contains 4-cyano-4'-alkylbiphenyl and/or 4-cyano-4'-alkoxybiphenyl, which shows smectic phase, and I. The compound weakens the layer structure of the composition to induce easy change of the structure in the composition.

IT 213549-33-8P
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(smectic liquid-crystal composition containing biphenyl derivative asym. twin compound)
RN 213549-33-8 CAPLUS
CN [1,1'-Biphenyl]-4-carbonitrile, 4'-[[11-[4-(5-octyl-2-pyrimidinyl)phenoxy]undecyl]oxy]- (9CI) (CA INDEX NAME)



9/811, 359

09/835,523

L9 ANSWER 65 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM

ACCESSION NUMBER: 1998:581632 CAPLUS

DOCUMENT NUMBER: 129:275854

TITLE: Novel synthesis of polyfunctionalized 1,4,4a,9a-tetrahydro-1-aza-9-oxafluorenes by unexpected cycloaddition of 4-(4-methoxyphenyl)-1,4-dihydropyridines and p-benzoquinone

AUTHOR(S): Hilgeroth, Andreas; Kuna, Krystina; Kucklander, Uwe

CORPORATE SOURCE: Inst. Pharm. Chem., Dep. Pharm., Martin-Luther-Univ. Halle-Wittenberg, Halle, 06120, Germany

SOURCE: Heterocycles (1998), 48(8), 1649-1658

PUBLISHER: CODEN: HETCYM; ISSN: 0385-5414

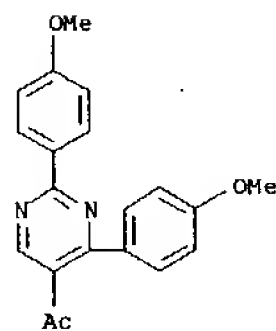
DOCUMENT TYPE: Japan Institute of Heterocyclic Chemistry

LANGUAGE: Journal

GI: English

L9 ANSWER 65 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM

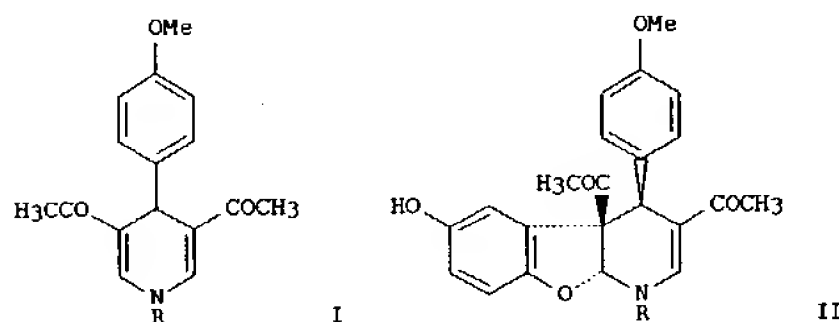
(Continued)



REFERENCE COUNT:

13

THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



AB A surprising acid-catalyzed cycloaddn. reaction occurs between 3,5-diacetyl-4-(4-methoxyphenyl)-1,4-dihydropyridine I (R = H, Me) and p-benzoquinone in dioxane/HClO₄ (5%) yielding novel polyfunctionalized 1,4,4a,9a-tetrahydro-1-aza-9-oxafluorenes II as exclusive products. On the other hand, the corresponding 4-unsubstituted 1,4-dihydropyridine is oxidized by p-benzoquinone. Novel structures are characterized by standard spectroscopy and, furthermore, confirmed by acetylation. The different reactivity of the 4-substituted and 4-unsubstituted derivs. is discussed on the basis of semiempirical MNDO calcns. and redox potentials.

IT 213825-31-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of azaoxafluorenes by cycloaddn. of benzoquinone to (methoxyphenyl)pyridine)

RN 213825-31-1 CAPLUS

CN Ethanone, 1-[2,4-bis(4-methoxyphenyl)-5-pyrimidinyl]- (9CI) (CA INDEX NAME)

L9 ANSWER 66 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM

ACCESSION NUMBER: 1998:562045 CAPLUS

DOCUMENT NUMBER: 129:252747

TITLE: An unusual endothermic transition to an optically isotropic phase organized by chiral molecular recognition

AUTHOR(S): Yoshizawa, Atsushi; Umezawa, Junko; Ise, Noriko; Sato, Rie; Soeda, Yukie; Kusumoto, Tetsuo; Sato, Ken-ichi; Hiyama, Tamejiro; Takanishi, Yoichi; Takezoe, Hideo

CORPORATE SOURCE: Central R&D Laboratory, Japan Energy Corporation, Toda, Saitama, 335-8502, Japan

SOURCE: Japanese Journal of Applied Physics, Part 2: Letters (1998), 37(8A), L942-L944

CODEN: JAPLDS; ISSN: 0021-4922

PUBLISHER: Japanese Journal of Applied Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel chiral liquid crystal was found to exhibit an endothermic transition upon cooling from a chiral smectic C phase to an optically isotropic phase. C-13 NMR and x-ray diffraction indicate that the isotropic phase has a layered structure in which fast isotropic reorientation of mol. or mol. assemblies occurs. Probably mol. aggregation via chiral recognition breaks anisotropic mol. ordering, which leads to a novel phase structure.

IT 213131-58-9, 2-[4-[(R)-2-Fluorohexyloxy]phenyl]-5-[4-[(S)-2-fluoro-2-methyldecyloxy]phenyl]pyrimidine

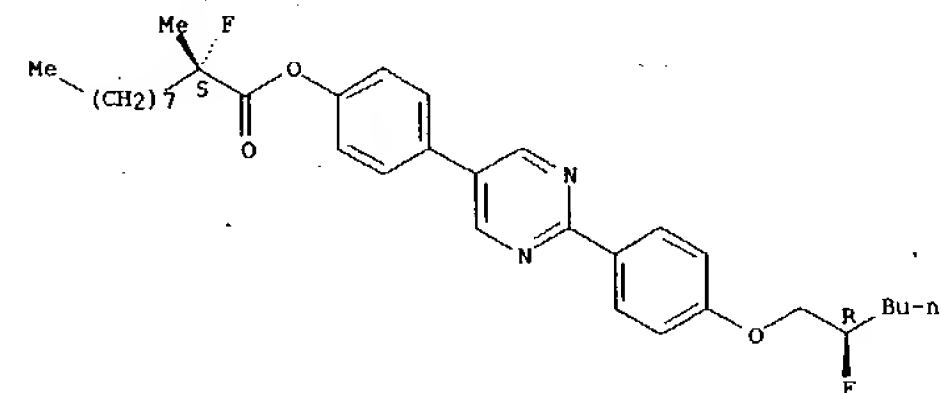
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(endothermic transition to optically isotropic phase organized by chiral mol. recognition in liquid crystals of)

RN 213131-58-9 CAPLUS

CN Decanoic acid, 2-fluoro-2-methyl-, 4-[2-[4-[(2R)-2-fluorohexyloxy]phenyl]-5-pyrimidinyl]phenyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

17

THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 67 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM

ACCESSION NUMBER: 1998:555898 CAPLUS

DOCUMENT NUMBER: 129:223304

TITLE: Optical recording medium using liquid crystal

INVENTOR(S): Hikosaka, Shinichi; Uenoyama, Hironori; Imaizumi, Mitsuhide; Takeshige, Shoji

PATENT ASSIGNEE(S): Dai Nippon Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

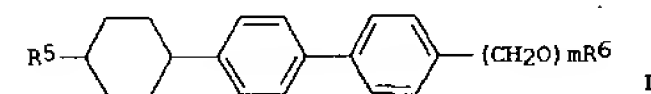
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 10228670 | A2 | 19980825 | JP 1997-28644 | 19970213 |
| PRIORITY APPLN. INFO.: | | | JP 1997-28644 | 19970213 |
| OTHER SOURCE(S): | | | MARPAT 129:223304 | |

GI



AB In the title recording medium having a recording layer which is composed of a liquid crystal phase and a resin phase and comprises a liquid crystal, an UV-curing resin, and a F-type surfactant on an electrode layer, the liquid crystal phase contains 4-alkyl-4'-cyanobiphenyl and/or 4-alkoxy-4'-cyanobiphenyl liquid crystals and 21 liquid crystal compound selected from R1A1CO2CH2CHMe(CH2)nCHMeCH2OCOB1R2, R3A2OCOCHMeCH2CO2B2R4, biphenyl compound I, and, p-R7C6H4CO2C6H4F-p (A1, A2, B1, B2 = divalent group having a phenylpyrimidine, biphenyl, phenylbenzoic acid, phenylcyclohexane, phenylbiphenylcarboxylic acid, biphenylbenzoic acid, terphenyl, or 1,5-diphenylpyrimidine skeleton; R1-R7 = alkyl, alkoxy; n = 3-15; m = 0, 1). The medium may comprise an electrode layer, a photoconductive layer, the recording layer, and an electrode layer in which 21 of the electrode layers is transparent. The medium provides noise-free records and shows high sensitivity in recording.

IT 212373-82-5

RL: DEV (Device component use); USES (Uses)
(electrooptical recording medium containing liquid crystal, UV-curable polymer, and F-containing surfactant)

RN 212373-82-5 CAPLUS

CN Benzoic acid, 4-(5-octyl-2-pyrimidinyl)-, 2,9-dimethyl-1,10-decanediyl ester, mixt. with 4'-decyl[1,1'-biphenyl]-4-carbonitrile, 4'-dodecyl[1,1'-biphenyl]-4-carbonitrile, 4-fluorophenyl 4-hexylbenzoate, 4'-nonyl[1,1'-biphenyl]-4-carbonitrile, 4'-(nonyloxy)[1,1'-biphenyl]-4-carbonitrile and 4'-pentyl[1,1':4',1''-terphenyl]-4-carbonitrile (9CI) (CA INDEX NAME)

CM 1

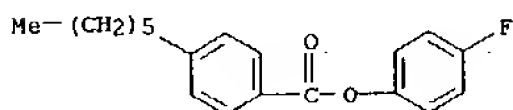
CRN 212373-81-4

CMF C19 H21 F O2

9/811, 359

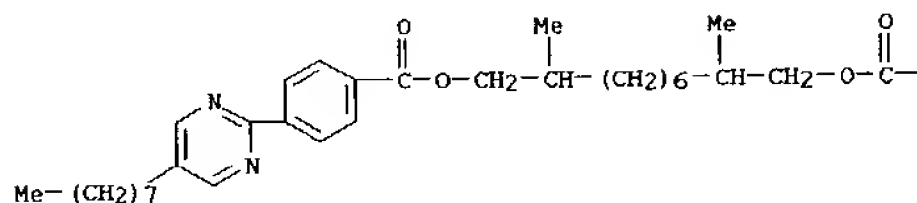
09/ 835,523

L9 ANSWER 67 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

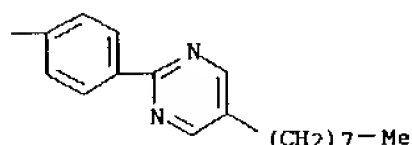


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CRN 212373-80-3
CMF C50 H70 N4 O4

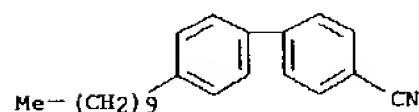
PAGE 1-A



PAGE 1-B

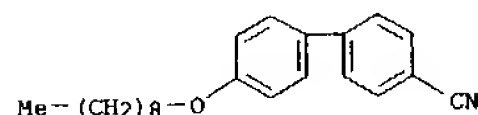


CM 3
CRN 59454-35-2
CMF C23 H29 N

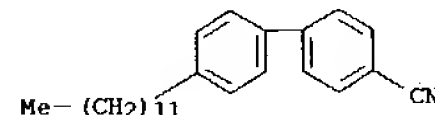


CM 4
CRN 58932-13-1
CMF C22 H27 N O

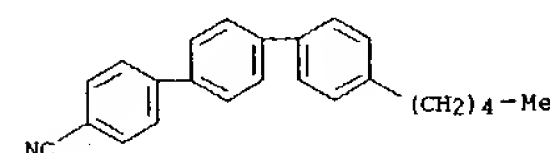
L9 ANSWER 67 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



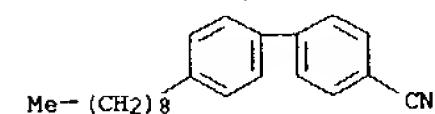
CM 5
CRN 57125-49-2
CMF C25 H33 N



CM 6
CRN 54211-46-0
CMF C24 H23 N

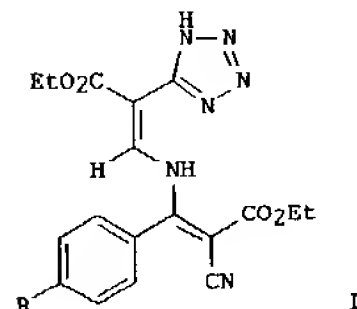


CM 7
CRN 52709-85-0
CMF C22 H27 N

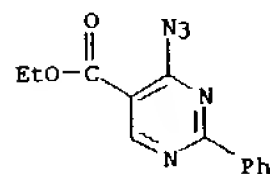


L9 ANSWER 68 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:544199 CAPLUS
DOCUMENT NUMBER: 129:245100
TITLE: Regio- and stereoselective ring opening in the reactions of ethyl 2-aryl-4-azidopyrimidine-5-carboxylates with ethyl cyanoacetate: formation of highly polarized bis(en)amines
AUTHOR(S): Nikolaenkova, E. B.; Mamatyuk, V. I.; Krivopalov, V. P.
CORPORATE SOURCE: Novosibirsk Institute of Organic Chemistry, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, 630090, Russia
SOURCE: Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (1998), 47(7), 1413-1414
CODEN: RCBUEY; ISSN: 1066-5285
PUBLISHER: Consultants Bureau
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



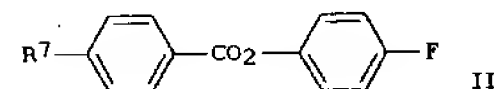
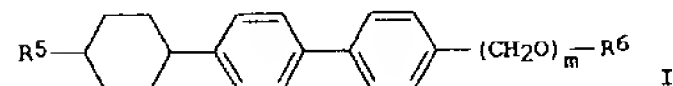
AB Enamines I (R = H, Br) were formed in the title reactions in 75 and 77% yield, resp.
IT 212955-72-1
RL: RCT (Reactant); RACT (Reactant or reagent) (regio- and stereoselective ring opening in reaction with Et cyanoacetate)
RN 212955-72-1 CAPLUS
CN 5-Pyrimidinecarboxylic acid, 4-azido-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 69 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:535947 CAPLUS
DOCUMENT NUMBER: 129:223608
TITLE: Smectic liquid-crystal composition for information recording media
INVENTOR(S): Fukumasa, Mitsumutsu; Okada, Tomomi; Yoshisawa, Atsushi
PATENT ASSIGNEE(S): Japan Energy K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
PATENT NO. KIND DATE APPLICATION NO. DATE
JP 10219251 A2 19980818 JP 1997-42890 19970213
PRIORITY APPLN. INFO.: JP 1997-42890 19970213
OTHER SOURCE(S): MARPAT 129:223608
GI



AB The media have (A) 4-alkyl-4-cyanobiphenyl and/or 4-alkoxy-4-cyanobiphenyl and (B) R1A1CO2CH2CH(Me)(CH2)nCH(Me)CH2COB1R2, R3A2OCOCH(Me)CH2CO2B2R4, I, and/or II (R1-7 = alkyl, alkoxy; A1, B1, A2, B2 = phenylpyrimidine, biphenyl, phenylbenzoic acid, phenylcyclohexane, phenylbiphenylcarboxylic acid, biphenylbenzoic acid, terphenylpyrimidine, 1,5-diphenylpyrimidine; n = 3-15 integer; m = 0, 1). The composition displays phase transformation by lower voltage application. The composition is useful for high quality and high contrast information recording such as an electrophotog. material, an optical sensor, etc.
IT 212554-10-4
RL: DEV (Device component use); USES (Uses) (liquid crystal mixture; nematic liquid crystal mixture containing alkyl or alkoxy cyanobiphenyl for information recording media)
RN 212554-10-4 CAPLUS
CN Benzoic acid, 4-(5-octyl-2-pyrimidinyl)-, (2S,9S)-2,9-dimethyl-1,10-decanediyl ester, mixt. with 4'-dodecyl[1,1'-biphenyl]-4-carbonitrile, 4'-nonyl[1,1'-biphenyl]-4-carbonitrile and 4'-(nonyloxy)[1,1'-biphenyl]-4-carbonitrile (9CI) (CA INDEX NAME)

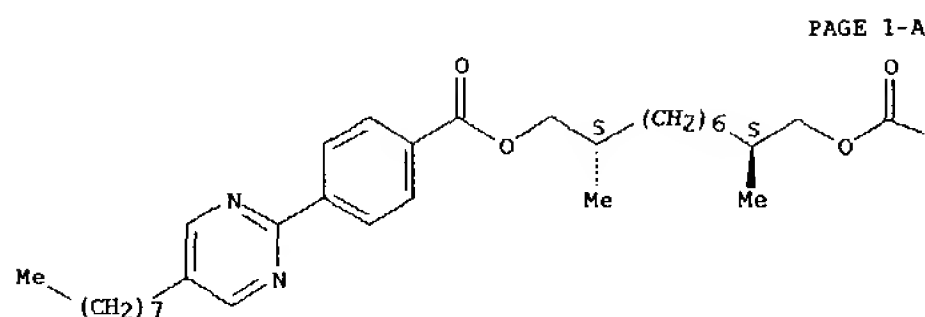
CM 1
CRN 212554-09-1
CMF C50 H70 N4 O4

9/811, 359

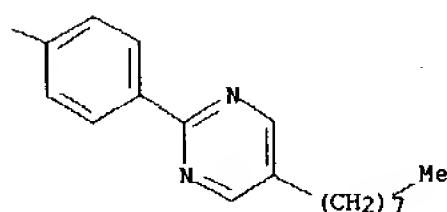
09/ 835,523

L9 ANSWER 69 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

Absolute stereochemistry.

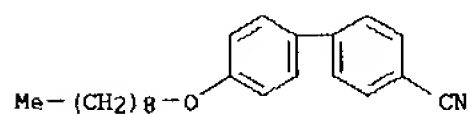


PAGE 1-B



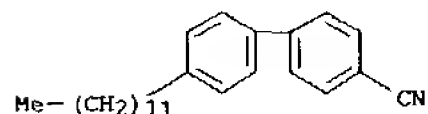
CM 2

CRN 58932-13-1
CMF C22 H27 N O



CM 3

CRN 57125-49-2
CMF C25 H33 N

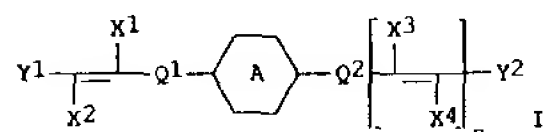


L9 ANSWER 70 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:535726 CAPLUS
DOCUMENT NUMBER: 129:195880
TITLE: Alkenyl-containing liquid crystal compound with low viscosity, its composition, and display device using it
INVENTOR(S): Kato, Takashi; Matsui, Akikazu; Miyasawa, Kazutoshi; Tomi, Yoshitake; Takeshita, Fusayuki; Nakagawa, Etsuo
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

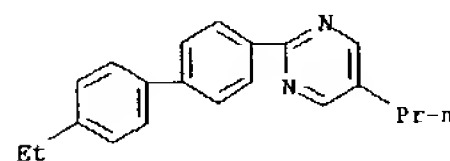
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 10218801 | A2 | 19980818 | JP 1997-38608 | 19970207 |
| PRIORITY APPLN. INFO.: | | | JP 1997-38608 | 19970207 |
| OTHER SOURCE(S): | | MARPAT 129:195880 | | |

GI



AB The compound comprises I [A = (Si-substituted) trans-1,4-cyclohexylene, 26-membered (halo-substituted) 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, 1,3-dioxane-2,5-diyl, tetrahydropyran-2,5-diyl, 1,3-dithiane-2,5-diyl, tetrahydrothiopyran-2,5-diyl; Q1-2 = (substituted) C1-15 alkylene, single bond; X1-4 = H, halo; Y1-2 = H, halo, (substituted) C1-15 alkyl; n = 0, 1; each element may contain isotopes]. The liquid-crystal composition consists of I and ≥1 other compound. The display device using the composition is also claimed. I shows low viscosity and high solubility at a low temperature and gives a high-contrast display device with low driving voltage.

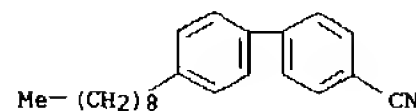
IT 175859-31-1b, mixture containing
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(alkenyl-containing liquid crystal compound with low viscosity for STN-type display device)
RN 175859-31-1 CAPLUS
CN Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)



L9 ANSWER 69 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 4

CRN 52709-85-0
CMF C22 H27 N



L9 ANSWER 70 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

9/8W, 359

09/ 835,523

L9 ANSWER 71 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:496132 CAPLUS
DOCUMENT NUMBER: 129:195854
TITLE: Liquid crystal injection process for manufacture of liquid crystal display
INVENTOR(S): Nakamura, Katsutoshi; Okada, Shinjiro; Kojima, Makoto; Sunaga, Maki; Mizutani, Hidemasa
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10197883 | A2 | 19980731 | JP 1996-356568 | 19961227 |

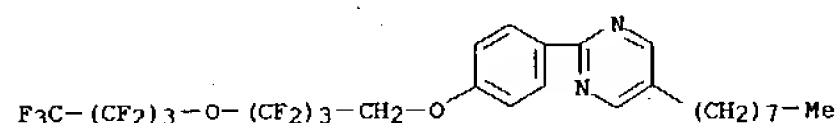
PRIORITY APPLN. INFO.: JP 1996-356568 19961227

AB The process comprises the steps of: (1) forming a cell having two openings by disposing a pair of substrates to face each other; (2) filling a liquid crystal in the cell by the injecting the heated solution phase smectic liquid crystal from the one opening and releasing from the other opening through the cell using the pressure difference at the two openings; (3) cooling the liquid crystal at the opening which releases the liquid crystal from the cell to the smectic phase; (4) returning the two openings part to the same pressure. The process provides the prevented deterioration of the liquid crystal material and the uniform cell gap, and enables to inject the smectic liquid crystal into the cell in a short time.

IT 152915-24-7
RL: DEV (Device component use); USES (Uses)
(liquid crystal injection process for manufacture of liquid crystal display)

RN 152915-24-7 CAPLUS

CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)



L9 ANSWER 72 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:493415 CAPLUS
DOCUMENT NUMBER: 129:195852
TITLE: Method of injecting liquid crystal into LCD cell
INVENTOR(S): Okada, Shinjiro; Nakamura, Katsutoshi; Sunaga, Masaki; Munakata, Hirohide; Mizutani, Hidemasa
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10197886 | A2 | 19980731 | JP 1996-356806 | 19961227 |

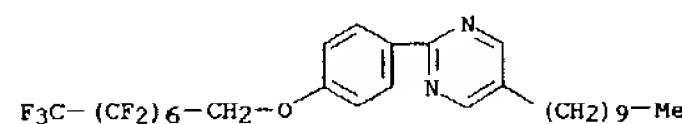
PRIORITY APPLN. INFO.: JP 1996-356806 19961227

AB The process comprises filling a cell with a liquid crystal by pressurizing a liquid crystal tank to a pressure higher than an atmospheric pressure, reducing the pressure in the tank to an atom. pressure gradually, and cooling the cell. The liquid crystal used in the process is terminated by a fluorocarbon group and a hydrocarbon group, in which both groups are connected by benzene and N-containing rings. The process prevented liquid crystal injection failure.

IT 152915-41-8
RL: DEV (Device component use); USES (Uses)
(liquid crystal injection process in manufacture of liquid crystal display)

RN 152915-41-8 CAPLUS

CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 73 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:493414 CAPLUS
DOCUMENT NUMBER: 129:195851
TITLE: Method of injecting liquid crystal into LCD cell
INVENTOR(S): Kojima, Makoto; Nakamura, Katsutoshi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10197884 | A2 | 19980731 | JP 1996-356804 | 19961227 |

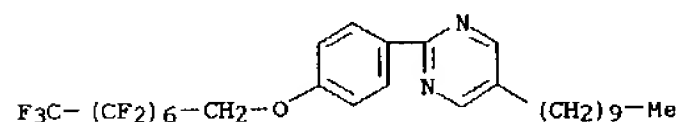
PRIORITY APPLN. INFO.: JP 1996-356804 19961227

AB The process injects a liquid crystal into a cell under the conditions of $P1 > 2$ and $P1 - P3 \leq 0.5$ kgf/cm² ($P1$, $P2$, and $P3$ are pressures at the 1st opening and at the 2nd opening, and at the display area of the cell, resp.), thereby purging a contaminated liquid crystal from the 2nd opening, and then sets liquid crystal pressures at $P1 = P2$ and $0 < P1 - P2 \leq 0.5$ kgf/cm² to eliminate cell gaps which may be caused by pressure difference within the cell. The liquid crystal used in the process is terminated by a fluorocarbon group and a hydrocarbon group which are connected by benzene and N-containing rings. The process prevented liquid crystal injection failure.

IT 152915-41-8
RL: DEV (Device component use); USES (Uses)
(method of injecting liquid crystal into LCD cell)

RN 152915-41-8 CAPLUS

CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 74 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:485511 CAPLUS
DOCUMENT NUMBER: 129:168196
TITLE: Chiral smectic liquid crystal cell including chelate complex and display device therewith
INVENTOR(S): Nakamura, Shinichi; Haniu, Yukio; Noguchi, Koji; Sato, Kimikazu; Yamada, Shuji; Shinjo, Kenshi; Mori, Yoshimasa
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10195441 | A2 | 19980728 | JP 1996-358525 | 19961229 |

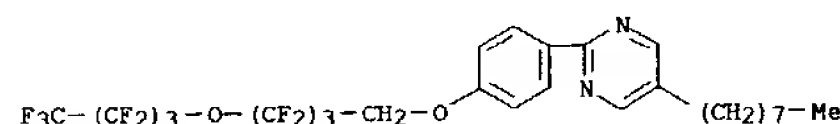
PRIORITY APPLN. INFO.: JP 1996-358525 19961229

AB The cell includes a liquid crystal composition having SmC* phase and ≥ 2 stable phases and contains a chelate complex. The composition has interlayer distance (d) satisfying $0.990 \leq d_{min}/dA$ [$dA = d$ at the 1st transition point (T1) around the $SmA \rightarrow SmC^*$ transition temperature where d begins to decrease; $d_{min} =$ the min. d at the 2nd transition point lower than T1] and show no cholesteric phase. The liquid crystal composition may contain a (latent) smectic liquid crystal compound wherein a fluorocarbon terminal and a hydrocarbon terminal are connected to each other via a (phenylpyrimidine) core. A display device containing the composition is also claimed.

IT 152915-24-7
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(SmC* liquid crystal cell including chelate complex and LCD therefrom without switching error)

RN 152915-24-7 CAPLUS

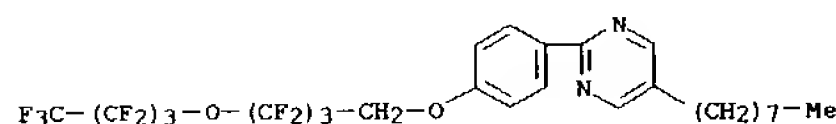
CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)



~~09/ 835,523~~

L9 ANSWER 75 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:480006 CAPLUS
DOCUMENT NUMBER: 129:154781
TITLE: Chiral smectic liquid crystal cell including diol
compound and display therefrom without switching error
INVENTOR(S): Nakamura, Shinichi; Yamada, Shuji; Noguchi, Koji;
Haneo, Yukio; Sato, Kimikazu; Shinjo, Kenshi; Mori,
Yoshimasa
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 50 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| | JP 10195440 | A2 | 19980728 | JP 1996-358524 | 19961229 |
| PRIORITY APPLN. INFO.: | | | | JP 1996-358524 | 19961229 |
| AB | <p>The cell includes a liquid crystal composition having SmC* phase and ≥ 2 stable phases and contains a compound represented by HOABOH [A, B = (substituted) aromatic or aliphatic rings]. The composition has interlayer distance</p> <p>(d) satisfying $0.990 \leq d_{\min}/d_A$ [$d_A = d$ at the 1st transition point (T1) around the $5A \rightarrow SmC^*$ transition temperature where d begins to decrease; $d_{\min} =$ the min. d at the 2nd transition point lower than T1] and show no cholesteric phase. The liquid crystal composition may contain a (latent) smectic liquid crystal compound wherein a fluorocarbon terminal and a hydrocarbon terminal are connected to each other via a (phenyl)pyrimidine core. A display device containing the composition is also claimed.</p> | | | | |
| IT | <p>152915-24-7</p> <p>RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)</p> <p>(SmC* liquid crystal cell including glycol compound for LCD without switching error)</p> | | | | |
| RN | 152915-24-7 CAPLUS | | | | |
| CN | <p>Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl-1,5-octyl- (9CI) (CA INDEX NAME)</p> | | | | |

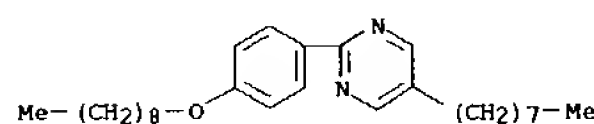


L9 ANSWER 76 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 2

CRN 57202-51-4

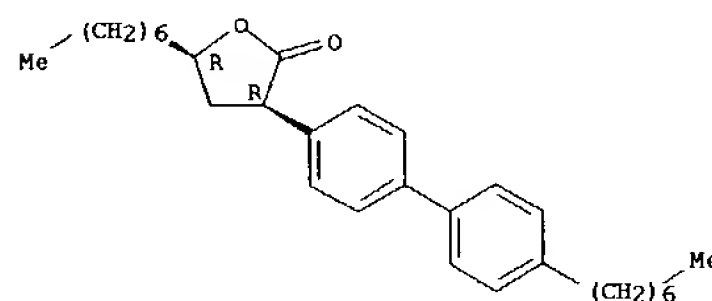
CMF C27 H42 N2 O



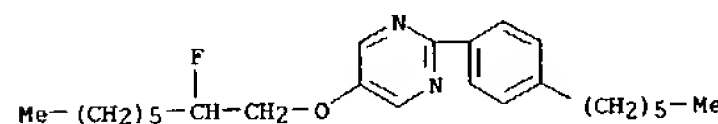
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 76 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:475770 CAPLUS
DOCUMENT NUMBER: 129:296083
TITLE: A relaxation of tilt angle in a ferroelectric liquid
crystal studied by time-resolved FT-IR
AUTHOR(S): Matsumoto, T.; Sakaguchi, K.; Yasuda, A.; Ozaki, Y.
CORPORATE SOURCE: Department of Chemistry, School of Science,
Kwansei-Gakuin University, Uegahara, Nishinomiya, 662,
Japan
SOURCE: AIP Conference Proceedings (1998), 430(Fourier
Transform Spectroscopy), 385-387
CODEN: APCPCS; ISSN: 0094-243X
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polarization angle dependences of IR and time-resolved IR have been
measured for a FLC mixture containing 20% cis-(2R,4R)-gamma-butyrolactone 1
(YK230C) as a chiral dopant and 80% 5-octyl-2-(4-nonyloxyphenyl)pyrimidine
(ONPP) as a nonchiral smectic base LC. These measurements and the
measurements of the dichroic ratios of IR bands show that the apparent
tilt angle and dichroic ratio in the dynamic state are larger than those
in the static state. It seemed therefore that the order of the
orientation is higher in the dynamic state than in the static state. In
order to confirm the higher orientation order in the dynamic state, we
performed time-resolved IR measurements of the FLC mixture for the delay
time ranging from 0 to 500 μ s, which is much longer than the response
time. The relaxation process was clearly observed after the response time.
IT 214351-39-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(relaxation of tilt angle in ferroelec. liquid crystal doped with chiral
dopant studied by time-resolved FT-IR)
RN 214351-39-0 CAPLUS
CN 2(3H)-Furanone, 5-heptyl-3-(4'-heptyl[1,1'-biphenyl]-4-yl)dihydro-,
(3R,5R)-, mixt. with 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine (9CI) (CA
INDEX NAME)
CM 1
CRN 214351-38-9
CMF C30 H42 O2

Absolute stereochemistry.



19 ANSWER 77 OF 573 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1998:475226 CAPLUS
DOCUMENT NUMBER: 129:295384
TITLE: Sub-microsecond dispersive time-resolved infrared study on preliminary process of electric-field-induced reorientation of a ferroelectric liquid crystal, 5-(2-fluoroalkoxy)-2-(4-n-alkylphenyl)-pyrimidine
AUTHOR(S): Katayama, Norihisa; Sato, Takashi; Ozaki, Yukihiro; Murashiro, Katsuyuki; Kikuchi, Makoto; Saito, Shinichi; Demus, Dietrich; Yuzawa, Tetsuro; Hamaguchi, Hiro-o
CORPORATE SOURCE: Department Chemistry, School Science, Kitasato University, Japan
SOURCE: Los Alamos National Laboratory, [Report] LA (United States) (1997), LA-13290-C, Seventh International Conference on Time-Resolved Vibrational Spectroscopy, 1995, 89-93
CODEN: LANLDK
DOCUMENT TYPE: Report
LANGUAGE: English
AB This paper demonstrates the potential of sub-microsecond dispersive time-resolved IR spectroscopy in exploring preliminary process of elec. field-induced reorientation of ferroelec. liquid crystals (FLCs). A 5-(2-fluorooctyloxy)-2-(4-hexylphenyl)-pyrimidine, which shows the inversion of the spontaneous polarization, is taken up as the example. The observed absorbance change for bands arising from both rigid core and flexible hydrocarbon chains indicates that the FLC mol. reorients from a stationary state with a slight delay (<1 μ s) just after the upswing of the elec. field, while counter-reorientation en route to the reorientation occurs with rather longer delay time after the reverse of the elec. field. The delay time for the counter-reorientation is unrelated to the length of the pulse induced. This fact suggests that the theor. consideration can be applied to dynamics in the preliminary process of the reorientation and that the delay for the counter-reorientation can be interpreted in terms of a rotation of a macroscopic rigid rod. Also the whole FLC mol. reorients simultaneously as a rigid rod in both the preliminary and the counter-reorientation process.
IT 155430-65-2, Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-hexylphenyl)-
RI: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(sub-microsecond dispersive time-resolved IR study on preliminary process of elec.-field-induced reorientation of a ferroelec. liquid crystal (2-fluorooctyloxy)-2-(4-n-hexylphenyl)-pyrimidine)
RN 155430-65-2 CAPLUS
CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-hexylphenyl)- (9CI) (CA INDEX NAME)

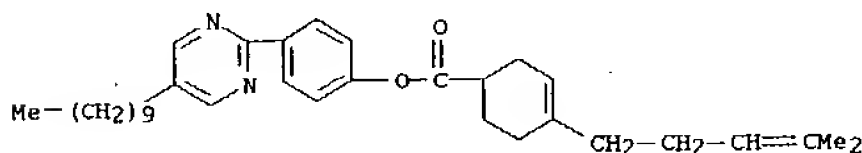


REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

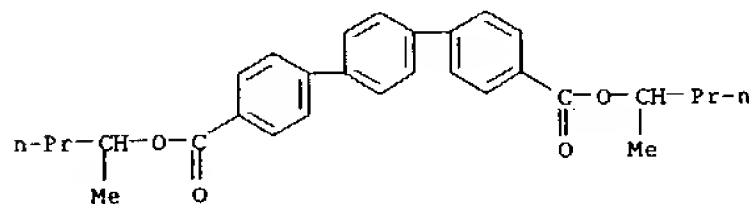
9/811, 389

09/ 835,523

L9 ANSWER 78 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:468172 CAPLUS
 DOCUMENT NUMBER: 129:182041
 TITLE: High-resolution, color FLC miniature display and FLC materials optimized for their operation
 AUTHOR(S): Wand, Michael D.; Vohra, Rohini T.; Thurmes, William N.; More, Kundalika M.
 CORPORATE SOURCE: Displaytech Inc., Longmont, CO, 80503, USA
 SOURCE: Ferroelectrics (1998), 213(1-4), 187-194
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Miniature (<1 cm²) 640 + 480 and 1280 + 1024 active matrix liquid crystal displays composed of a ferroelec. liquid crystal light-modulating layer placed on top of a reflective CMOS backplane and illuminated with red, green, and blue LEDs are described. The images are magnified for viewing. Truly miniature displays are difficult to produce with traditional display technologies. Such a display should be small and light enough to mount in a pair of eyeglasses or to incorporate in a pocket-size portable communications device. It should show bright, color images running at video-rate speeds with work-station resolution while operating for long periods on small batteries. The display should also be mass manufacturable at very low cost.
 IT 155468-58-9, MDW 336
 RL: DEV (Device component use); PRP (Properties); USES (Uses) (high-resolution, color FLC miniature display and characterization of FLC materials optimized for their operation)
 RN 155468-58-9 CAPLUS
 CN 3-Cyclohexene-1-carboxylic acid, 4-(4-methyl-3-pentenyl)-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)

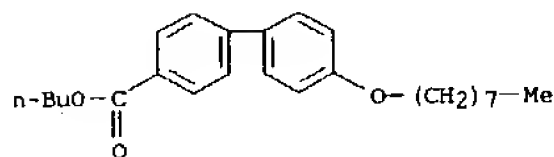


L9 ANSWER 79 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:468159 CAPLUS
 DOCUMENT NUMBER: 129:102299
 TITLE: Electroclinic and induced biaxiality effects in new FLC mixtures
 AUTHOR(S): Saxena, K.; Beresnev, L.; Blinov, L.; Pikin, S.; Haase, W.
 CORPORATE SOURCE: Inst. Physikalische Chem., Technische Hochschule Darmstadt, Darmstadt, D-64287, Germany
 SOURCE: Ferroelectrics (1998), 213(1-4), 73-80
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The basic parameters, describing the polarization and electrooptical properties of mixts., composed from lamellar matrix and dopants of chiral mols., are measured. The model was proposed assuming the inclination of chiral mols. even in orthogonal phase. According to this assumption the essential fluctuations of biaxial order in vicinity of the ferroelec. phase transition temperature take place. The induced biaxiality noticeably changes the temperature behavior of basic characteristics of ferroelec. liquid crystal.
 IT 200343-75-5, FLC-441
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process) (electroclinic and induced biaxiality effects in new ferroelec. liquid crystal mixts.)
 RN 200343-75-5 CAPLUS
 CN [1,1':4',1''-Terphenyl]-4,4''-dicarboxylic acid, bis(1-methylbutyl) ester, mixt. with butyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 134853-20-6
 CMF C30 H34 O4

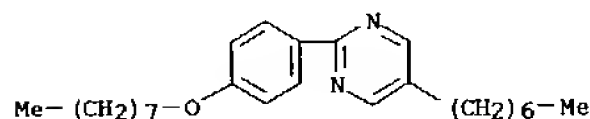


CM 2
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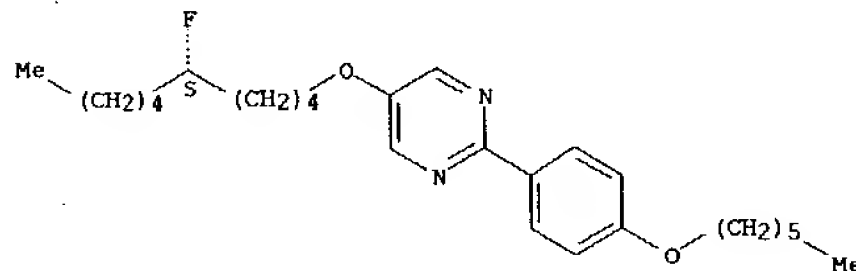
L9 ANSWER 79 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3
 CRN 57202-39-8
 CMF C25 H38 N2 O



L9 ANSWER 80 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:442334 CAPLUS
 DOCUMENT NUMBER: 129:168473
 TITLE: Synthesis and properties of FLC with fluorinated asymmetric frames
 AUTHOR(S): Nagashima, Yutaka; Aoki, Yoshio; Nohira, Hiroyuki
 CORPORATE SOURCE: Department Applied Chemistry, Faculty Engineering, Saitama University, Urawa, 338, Japan
 SOURCE: Ferroelectrics (1998), 212(1-4), 333-340
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New homologous ferroelec. liquid crystals were synthesized by utilizing optically active 5-fluoro-1-alkanols. Their mesomorphic and phys. properties were investigated systematically with respect to their homologous compds. having different cores. All the compds. exhibited chiral smectic C phases in a wide range of temps. The magnitude of spontaneous polarization, tilt angle, and response time were measured.
 IT 197852-27-0
 RL: PRP (Properties) (phase transition temps. and optical and ferroelec. properties of fluorinated alkoxyphenylpyrimidine ferroelec. liquid crystals)
 RN 197852-27-0 CAPLUS
 CN Pyrimidine, 5-[[[(5S)-5-fluorodecyl]oxy]-2-[4-(hexyloxy)phenyl]- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.



09/835,523

9/811, 359

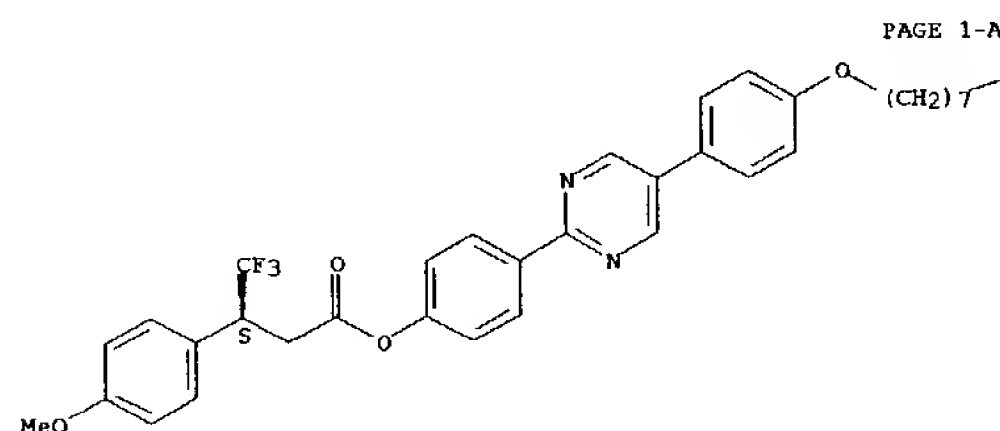
L9 ANSWER 81 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:442327 CAPLUS
 DOCUMENT NUMBER: 129:143030
 TITLE: Antiferroelectric liquid crystals and their chiral structures
 AUTHOR(S): Aoki, Yoshio; Nohira, Hiroyuki
 CORPORATE SOURCE: Department Applied Chemistry, Faculty Engineering, Saitama University, Urawa, 338, Japan
 SOURCE: Ferroelectrics (1998), 212(1-4), 273-280
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The present study examines the relationship between antiferroelectricity and chirality in antiferroelec. liquid crystals (AFLCs). The degree of chirality of the AFLCs was evaluated by measuring the helical twisting power (HTP) in the nematic phase. AFLCs exhibited large HTP values.

IT 167703-03-9
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (antiferroelectricity related to chirality of nematic liquid crystals studied via their helical twisting power as a function of optical rotation)

RN 167703-03-9 CAPLUS
 CN Benzenepropanoic acid, 4-methoxy-β-(trifluoromethyl)-, 4-[5-[4-(octyloxy)phenyl]-2-pyrimidinyl]phenyl ester, (BS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



PAGE 1-B

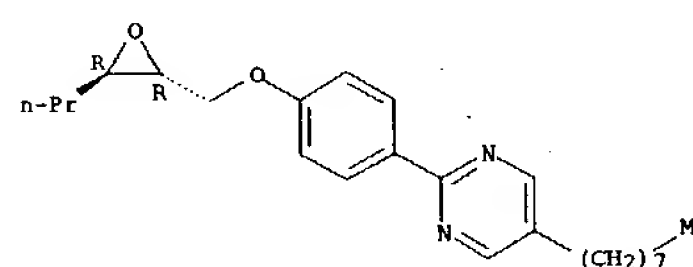
L9 ANSWER 82 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:442303 CAPLUS
 DOCUMENT NUMBER: 129:143022
 TITLE: The dependence of polarization and dielectric biaxiality on the enantiomeric excess in chiral dopant added to a smectic C host mixture
 AUTHOR(S): Buivydas, M.; Lagerwall, S. T.; Gouda, F.; Duebal, R.; Takeichi, A.
 CORPORATE SOURCE: Chalmers University Technology, S-41296, Swed.
 SOURCE: Ferroelectrics (1998), 212(1-4), 55-65
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The dielec. stabilization of the field-on states is an important feature for all SSFLC devices using the so-called C2 chevron geometry. This requires a combination of pos. dielec. biaxiality and neg. dielec. anisotropy. In the present work we use the phenylpyrimidine base mixture M192/62.5 as a non-chiral host and dope it by 10% of a chiral oxirane derivative with varying enantiomeric excess of the R-compound. The results confirm our basic expectations: while the polarization increases with increasing χ , the dielec. coeffs. seem to be essentially independent on the enantiomeric excess, therefore on the spontaneous polarization. This result is remarkably different from our previous results on pure compds. showing a clear correlation between the dielec. biaxiality and spontaneous polarization in different mol. structures.

IT 210560-03-5
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (chiral dopant; dependence of spontaneous polarization and dielec. biaxiality on enantiomeric excess in chiral oxirane dopant added to a smectic C ferroelec. liquid crystal mixture)

RN 210560-03-5 CAPLUS
 CN Pyrimidine, 5-octyl-2-[4-[(2R,3R)-3-propyloxiranyl]methoxy]phenyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

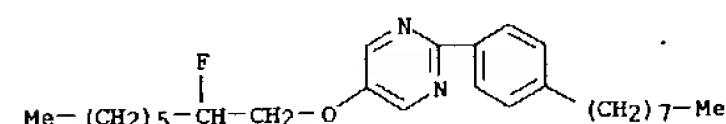


L9 ANSWER 83 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:442301 CAPLUS
 DOCUMENT NUMBER: 129:74317
 TITLE: Direct measurements by the pulse pyroelectric technique of the soft-mode relaxation times on both sides of the smectic A-C* transition
 AUTHOR(S): Blinov, Lev; Ozaki, Masanori; Okazaki, Shoji; Yoshino, Katsumi
 CORPORATE SOURCE: Institute Crystallography, Moscow, 117333, Russia
 SOURCE: Ferroelectrics (1998), 212(1-4), 37-44
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The submicrosecond pulse pyroelec. technique was applied to the measurements of the soft mode relaxation times on both sides of the ferroelec. smectic A-C* phase transition for 2 ferroelec. liquid crystals, a room temperature multicomponent mixture with high spontaneous polarization, and a compound with polarization changing its sign at a certain temperature. Inverse relaxation times seem to obey Curie-type behavior, at least on the smectic A side of the transition. The tilt-viscosity coefficient $\gamma.v\theta$ was calculated for both the materials.

IT 155430-67-4
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (soft-mode relaxation times on both sides of smectic A-C* transition of ferroelec. liquid crystals directly measured by pulse pyroelec. technique)

RN 155430-67-4 CAPLUS
 CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-octylphenyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 84 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:442300 CAPLUS
 DOCUMENT NUMBER: 129:143020
 TITLE: Thickness dependence of polarization and response characteristics in thin FLC films
 AUTHOR(S): Pikin, S.; Osipov, M.; Biradar, A.; Beresnev, L.; Haase, W.
 CORPORATE SOURCE: Institute Crystallography, Moscow, 117333, Russia
 SOURCE: Ferroelectrics (1998), 212(1-4), 29-36
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English

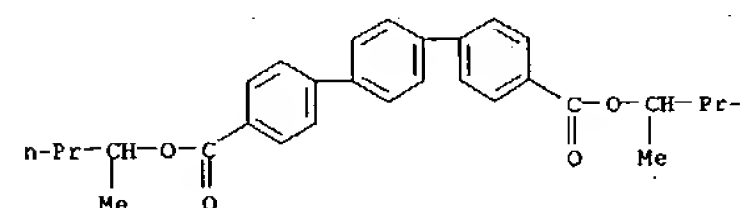
AB The effects of cell thickness on the pretransitional behavior of ferroelec. liquid crystals were studied exptl. and theor. for thin cells. The temperature and field dependences of the tilt angle, polarization, polarization to tilt angle ratio, dielec. permeability, and relaxation frequency are considered in detail in the framework of a simple model for the surface tension. Apparent values of the phenomol. coeffs. in the free energy expansion and some bulk and surface material parameters are estimated.

IT 200343-75-5, FLC-441
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (thickness dependence of polarization and dielec. response characteristics in thin ferroelec. liquid crystal films related to surface tension)

RN 200343-75-5 CAPLUS
 CN [1,1':4',1''-Terphenyl]-4,4''-dicarboxylic acid, bis(1-methylbutyl) ester, mixt. with butyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

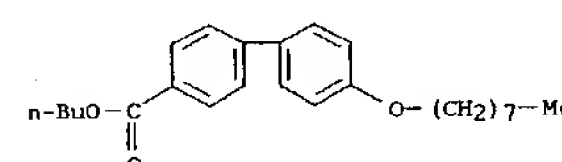
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 CMF C30 H34 O4



CM 2

CRN 61966-09-4
 CMF C25 H34 O3

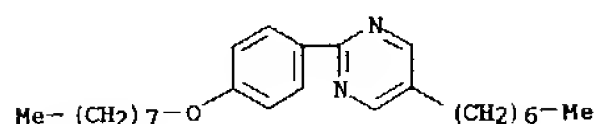


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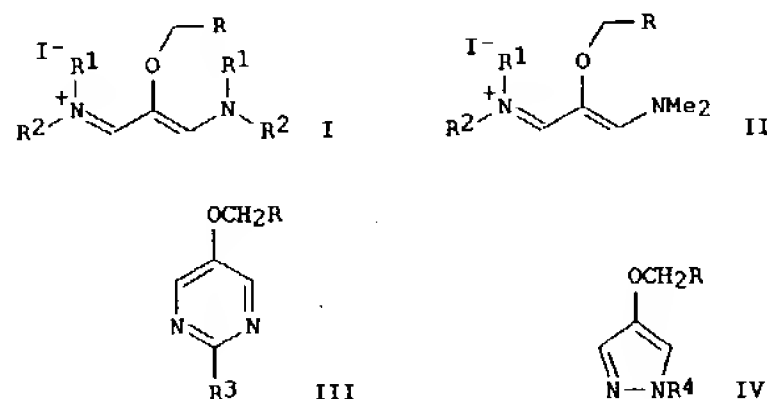
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L9 ANSWER 84 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 3

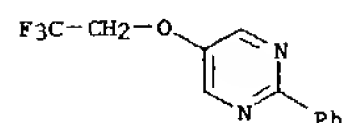
CRN 57202-39-8
CMF C25 H38 N2 O

L9 ANSWER 85 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:428529 CAPLUS
 DOCUMENT NUMBER: 129:189292
 TITLE: Synthesis of polyfluoroalkoxylated pyrimidines and pyrazoles by using novel β -polyfluoroalkoxy vinamidinium salts
 AUTHOR(S): Kase, Koichiro; Katayama, Mitsuyoshi; Ishihara, Takashi; Yamanaka, Hiroki; Gupton, John T.
 CORPORATE SOURCE: Dep. Chem. Mater. Technol., Kyoto Inst. Technol., Kyoto, 606, Japan
 SOURCE: Journal of Fluorine Chemistry (1998), 90(1), 29-38
 CODEN: JFLCAR; ISSN: 0022-1139
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 129:189292
 GI



AB The β -polyfluoroalkoxy vinamidinium salts I and/or II ($R = CF_3$, CF_3CF_2 , HCF_2CF_2 , $HCF_2CF_2CF_2CF_2$; $R_1 = R_2 = Et$, Me_2CH , $R_1R_2N =$ pyrrolidino, piperidino, morpholino) were prepared in good yields by the reaction of $F_2CHC(OCH_2R):CHN+Me_3I^-$ (III) with R_1R_2NH in MeCN at 70° for 1 h. I and II reacted with bifunctional heteronucleophiles, such as amidines, guanidines and hydrazines, to give regiospecifically polyfluoroalkoxylated pyrimidines IV ($R_3 = Ph$, H , Me , NH_2 , etc.) and pyrazoles V ($R_4 = Ph$, N , Me) in good yields. The one-pot procedure starting from $F_2CHCF:CHN+Me_3I^-$, which was the precursor of III, was applicable for synthesizing the heterocyclic compds. in almost comparable yields with those obtained by the stepwise procedure using isolated I and II.
 IT 211677-43-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of polyfluoroalkoxylated pyrimidines and pyrazoles via cyclization of vinamidinium salts)
 RN 211677-43-9 CAPLUS
 CN Pyrimidine, 2-phenyl-5-(2,2,2-trifluoroethoxy)- (9CI) (CA INDEX NAME)

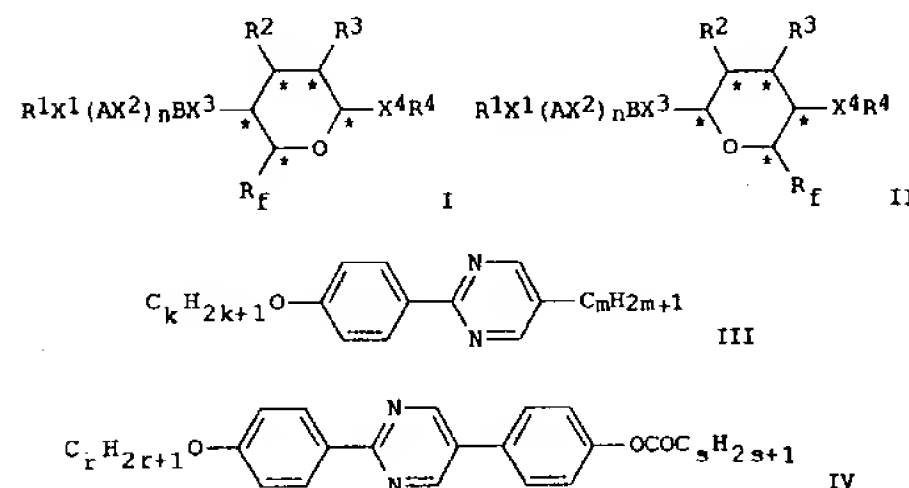
L9 ANSWER 85 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 86 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:421552 CAPLUS
 DOCUMENT NUMBER: 129:142706
 TITLE: Liquid-crystal composition containing tetrahydropyran derivative and display device using it
 INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Takeda, Mitsunori
 PATENT ASSIGNEE(S): Kashima Oil Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 10176168 | A2 | 19980630 | JP 1996-337243 | 19961217 |
| PRIORITY APPLN. INFO.: | | | JP 1996-337243 | 19961217 |
| OTHER SOURCE(S): | | | MARPAT 129:142706 | |
| GI | | | | |

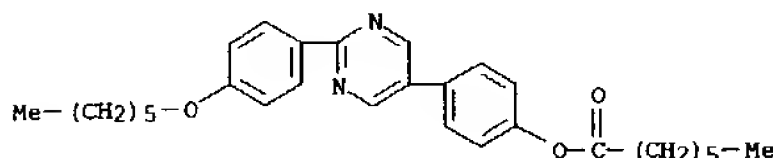


AB The composition contains (A) 19-70 weight% optically active tetrahydropyran derivative
 I and/or II [$R_f = C_1-2$ fluoroalkyl; $R_1 = C_3-20$ alkyl; $R_2-4 = H$, C_1-15 alkyl, C_2-15 alkenyl, C_7-10 aralkyl; $X_1 = CO_2$, OCO , O , none; $X_2 = CO_2$, OCO , CH_2O , OCH_2 , C , tpb , $bond$, C , none; $X_3 = CO_2$, CH_2O , O ; $X_4 = O$, OCO ; A , $B =$ halo, cyano, (F-containing alkyl-substituted) 6-membered ring; $n = 0, 1$], (B) ≥ 1 bicyclo phenylpyrimidine-type ether III ($k, m = 1-15$), (C) ≥ 1 tricyclo phenylpyrimidine compound IV ($r, s = 1-15$), and (E) ≥ 1 tricyclo pyrimidine compound $R_5DCO_2EGR_6$ ($D = 1,4$ -phenylene, $trans$ -1,4-cyclohexylene; $E, G = 1,4$ -phenylene, pyrimidin-2,5-diyl; $E \neq G$; $R_5 = C_1-18$ alkyl; $R_6 = C_1-18$ alkoxy, alkoxyalkyl). The display device contains the composition. The composition showed high spontaneous polarization and good thermal stability.
 IT 161826-67-1
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (liquid-crystal composition containing tetrahydropyran derivative and phenylpyrimidine)

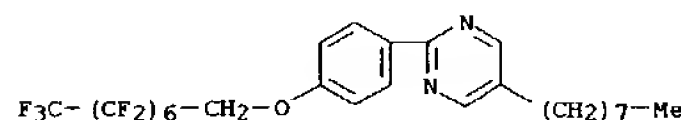
9/811,359

09/ 835,523

L9 ANSWER 86 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 deriv. for display device)
 RN 161826-67-1 CAPLUS
 CN Heptanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI)
 (CA INDEX NAME)

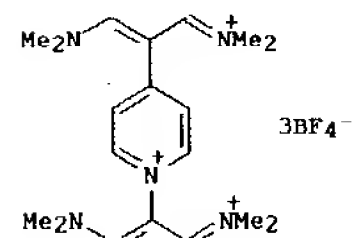


L9 ANSWER 87 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:417003 CAPLUS
 DOCUMENT NUMBER: 129:209612
 TITLE: Surface Tension Obtained from Various Smectic Free-Standing Films: The Molecular Origin of Surface Tension
 AUTHOR(S): Mach, P.; Huang, C. C.; Stoebe, T.; Wedell, E. D.; Nguyen, T.; de Jeu, W. H.; Guittard, F.; Naciri, J.; Shashidhar, R.; Clark, N.; Jiang, I. M.; Kao, F. J.; Liu, H.; Nohira, H.
 CORPORATE SOURCE: School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, 55455, USA
 SOURCE: Langmuir (1998), 14(15), 4330-4341
 CODEN: LANGD5; ISSN: 0743-7463
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB High-resolution surface tension measurements have been carried out on the free-standing films of more than 30 selected liquid-crystal compds. in their smectic phases. Surface tension (γ) values falling into major categories of 27, 24, 21, 13, and 11.5 dyn/cm have been obtained. The dependence of γ on specific terminal groups or mol. structures will be discussed. The results provide important information about the mol. origin of surface tension.
 IT 152915-43-0
 RL: PRP (Properties)
 (surface tension obtained from various smectic free-standing liquid crystal films)
 RN 152915-43-0 CAPLUS
 CN Pyrimidine, 5-octyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)

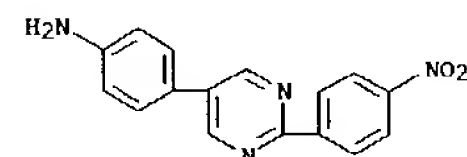


REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 88 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:341715 CAPLUS
 DOCUMENT NUMBER: 129:136128
 TITLE: Pyrroles, imidazoles, and poly(vinamidines) from bis(vinamidinium salts)
 AUTHOR(S): Gompper, Rudolf; Harfmann, Carsten; Polborn, Kurt
 CORPORATE SOURCE: Institut Organische Chemie, Ludwig-Maximilians-Universitaet, Munich, D-80333, Germany
 SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung (1998), 340(4), 381-389
 CODEN: JPCCEM; ISSN: 0941-1216
 PUBLISHER: Johann Ambrosius Barth
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 129:136128
 GI



AB The reaction of bis(vinamidinium salts) and amidinium-vinamidinium salts with primary amines was studied. Whereas the condensation of bis(vinamidinium salts) I and [Me2NCH:NHC(CHNMe2)2]2+2ClO4- with 1,4-(H2N)C6H4 and (CHC6H4-4-NH2)2 gave rise to polymeric vinamidines, [(Me2NCH)2C:C(CHNMe2)2]2+2ClO4- and [Me2NCH:NMeC(CHNMe2)2]2+2ClO4- reacted with aromatic amines and diamines to give pyrrole and imidazole derivs. The reaction of 4-H2NC6H4CH2CO2H with DMF/POCl3 produced a [4-(Me2N:CHNH)C6H4C(CHNMe2)2]2+2ClO4- which was converted into 2-(4-nitrophenyl)-5-(4-aminophenyl)pyrimidine displaying a strong solvatochromism. The crystal structure anal. of [(Me2NCH)2C:C(CHNMe2)2]2+2X- (X- = tetracyanopropenide) revealed a 73° twist angle between the planes of the vinamidinium moieties.
 IT 210636-68-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of pyrroles, imidazoles, and poly(vinamidines) from bis(vinamidinium salts))
 RN 210636-68-3 CAPLUS
 CN Benzenamine, 4-[2-(4-nitrophenyl)-5-pyrimidinyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 88 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

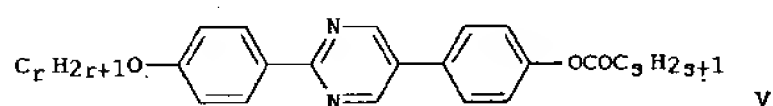
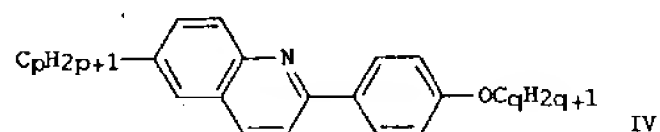
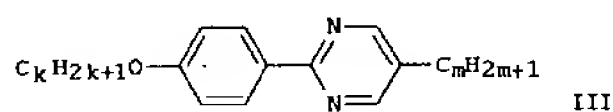
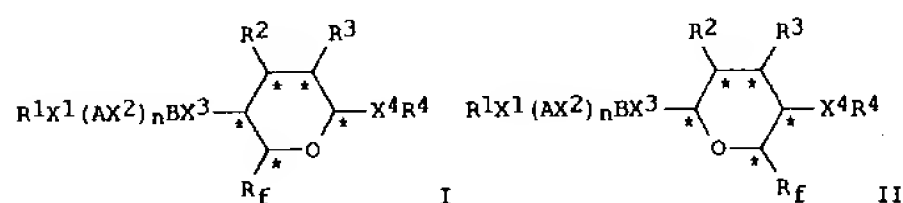
9/811, 359

09/835,523

L9 ANSWER 89 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:335640 CAPLUS
 DOCUMENT NUMBER: 129:74339
 TITLE: Ferroelectric liquid crystal composition containing tetrahydropyran
 INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Oil Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 10140159 | AZ | 19980526 | JP 1996-301502 | 19961113 |
| PRIORITY APPLN. INFO.: | | JP 1996-301502 | 19961113 | |
| OTHER SOURCE(S): | | MARPAT 129:74339 | | |

GI

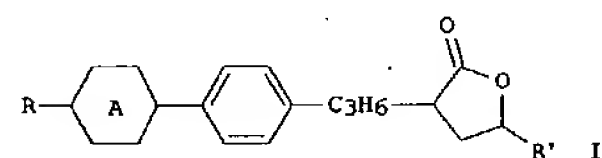


AB The composition contains (A) 0.1-19% (to the composition, not including 19%) an optically active tetrahydropyran derivative I and/or II, (B) a biphenyl pyrimidine-based ether compound III, (C) an alkyloxyphenylquinoline compound IV, (D) a tri-Ph pyrimidine-based compound V, and (E) a tri-Ph pyrimidine-based compound R5DCO2EGR6 [Rf = C1-2 fluoroalkyl; R1 = C3-20 linear or branched alkyl; R2-4 = H, C1-15 linear or branched alkyl, C2-15 alkenyl, C7-10 aralkyl; X1 = CO2, OCO, O, direct bond; X2 = CO2, OCO, CH2O, C.tplbond.C, direct bond; X3 = CO2, CH2O, O; X4 = O, OCO; A, B =

L9 ANSWER 90 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:335663 CAPLUS
 DOCUMENT NUMBER: 129:60666
 TITLE: Chiral lactones, liquid crystal compositions therefrom, and display devices using the same
 INVENTOR(S): Sakaguchi, Kazuhiko; Ofuna, Taishi; Saito, Shinichi
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 10139772 | A2 | 19980526 | JP 1996-311408 | 19961107 |
| PRIORITY APPLN. INFO.: | | JP 1996-311408 | 19961107 | |
| OTHER SOURCE(S): | | MARPAT 129:60666 | | |

GI

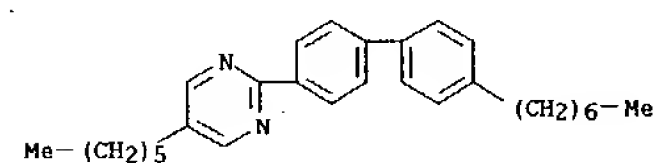


AB The lactones are I (R = C1-16 alkyl (oxy); R' = C1-12 alkyl; ring A = 1,4-phenylene, 1,4-cyclohexylene, single bond). The liquid crystal comps. contain I and show rapid response and less dependency of chiral pitch length on temperature LCD using the comps. are also claimed.

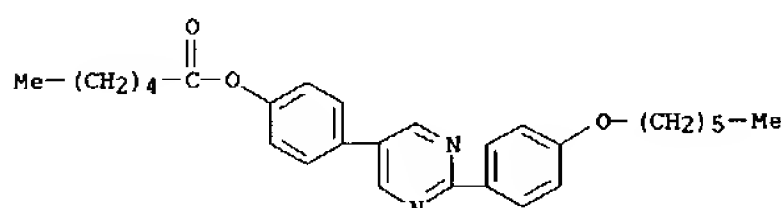
IT 208582-52-9
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (lactone-containing chiral dopants for liquid crystal displays with stable chiral pitch to temperature)

RN 208582-52-9 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-hexylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 5-hexyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

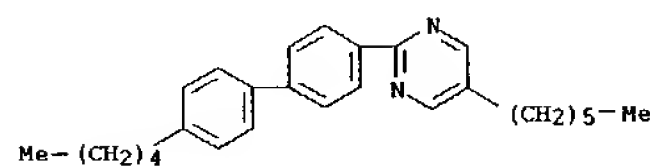
CRN 92519-52-3
CMF C29 H38 N2

L9 ANSWER 89 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 (halo-, cyano-, fluoroalkyl-substituted) 6-membered ring; D = 1,4-phenylene, trans-1,4-cyclohexylene; E, G = 1,4-phenylene, pyridine-2,5-diyl; E ≠ G; R5 = C1-18 alkyl; R6 = C1-18 alkoxy (alkyl); n = 0, 1; k, m, p, q, r, s = 1-15 integer]. The compn. shows rapid response and excellent heat stability.
 IT 186090-20-0
 RL: DEV (Device component use); USES (Uses)
 (ferroelec. liquid crystal composition containing optically active tetrahydropyran)
 RN 186090-20-0 CAPLUS
 CN Hexanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

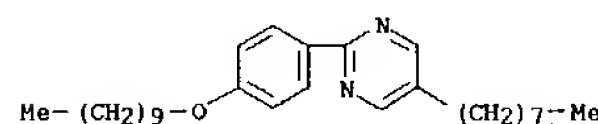


L9 ANSWER 90 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

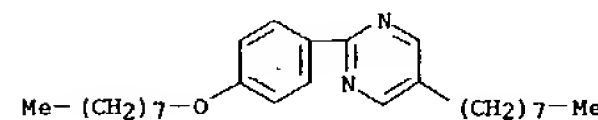
CM 2

CRN 92178-46-6
CMF C27 H34 N2

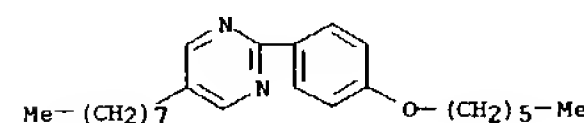
CM 3

CRN 57202-52-5
CMF C28 H44 N2 O

CM 4

CRN 57202-50-3
CMF C26 H40 N2 O

CM 5

CRN 57202-48-9
CMF C24 H36 N2 O

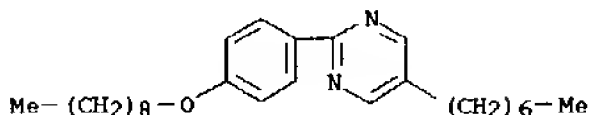
CM 6

CRN 57202-40-1
CMF C26 H40 N2 O

9/811, 359

09/ 835,523

L9 ANSWER 90 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 91 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:323241 CAPLUS
DOCUMENT NUMBER: 129:11051
TITLE: Preparation of fluoroalkylated dioxane derivatives, liquid crystal compositions, and liquid-crystal display elements
INVENTOR(S): Haseba, Yasuhiro; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo
PATENT ASSIGNEE(S): Chisso Corp., Japan; Haseba, Yasuhiro; Matsui, Shuichi; Miyazawa, Kazutoshi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|----------|
| WO 9820006 | A1 | 19980514 | WO 1997-JP4069 | 19971107 |
| W: | AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | |
| JP 10139778 | A2 | 19980526 | JP 1996-311405 | 19961107 |
| AU 9748861 | A1 | 19980529 | AU 1997-48861 | 19971107 |
| PRIORITY APPLN. INFO.: | | | JP 1996-311405 | 19961107 |
| | | | WO 1997-JP4069 | 19971107 |
| OTHER SOURCE(S): | | MARPAT 129:11051 | | |
| GI | | | | |

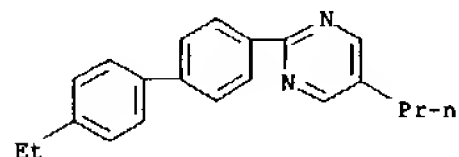
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Claimed and prepared are liquid-crystal compds. which have remarkably large dielec. anisotropy ($\Delta\epsilon$) values and high specific resistance values and are excellent in compatibility with existing liquid-crystal compds. and suitable particularly for the low-voltage driving of TFT-type liquid-crystal display elements and liquid-crystal compns. containing the same. Also claimed is a liquid crystal element using the liquid crystal compns. The above compds. are dioxane derivs. represented by general formula [I], wherein n is an integer of 2 to 10; n1 and n2 are each independently an integer of 0 to 2; and n3 and n4 are each independently 0 or 1, with n1, n3 and n4 satisfying the relationships: $n3n4$ and $n1 + n3 + n4$
s2: Q1 and Q2 are each independently hydrogen, fluoro or chloro;
Za, Zb and Zc are each independently a single bond, CH_2CH_2 , $\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2$, CO_2 or CF_2 ; ring A1 and A2 are each independently selected from among the groups, 1,4-cyclohexylene, 1,4-phenylene, 2-fluoro-1,4-phenylene, 2-chloro-1,4-phenylene, 2,6-difluoro-1,4-phenylene, 2-chloro-6-fluoro-1,4-phenylene, 2,6-dichloro-1,4-phenylene, Q2, and Q3; Y is hydrogen, halogeno

L9 ANSWER 91 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
or C1-5 haloalkyl; some provisos given]. Thus, cyclocondensation of 2-(3-fluoropropyl)-1,3-propanediol with 3,5-difluorobenzaldehyde in the presence of p-MeC6H4SO3H in refluxing toluene and treatment of the resulting 5-(3-fluoropropyl)-2-(3,5-difluorophenyl)-1,3-dioxane with BuLi in THF followed by coupling with 1-bromo-3,4-difluorobenzene in the presence of $(\text{PPh}_3)_4\text{Pd}$ gave the title compd. (II). One nematic liq. crystal compn. contg. 15 wt.% II and a mixt. of 4-benzonitrile derivs. (85 wt.%) showed TN1 63.5°, viscosity 36.8 mPa.s, An 0.132, $\Delta\epsilon$ 12.2, and threshold voltage 1.40 V (cell thickness 9.0 μm) and exhibited nematic phase even after it was kept at -20° for 30 days.

IT 175859-31-1
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition; preparation of fluoroalkylated dioxane derivs., liquid crystal compns., and liquid-crystal display elements)

RN 175859-31-1 CAPLUS
CN Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)

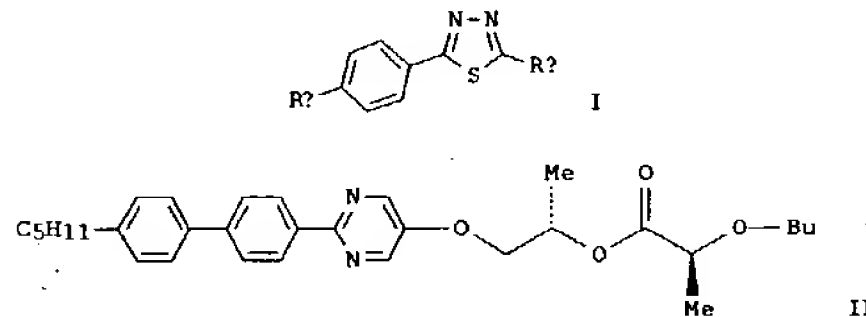


REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 92 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:323239 CAPLUS
DOCUMENT NUMBER: 128:315486
TITLE: Preparation of 2-(4-alkylphenyl)-5-alkylthiadiazoles as liquid crystals
INVENTOR(S): Saito, Shinichi; Shundo, Ryushi; Okabe, Eiji; Saito, Hideo
PATENT ASSIGNEE(S): Chisso Corp., Japan; Saito, Shinichi; Shundo, Ryushi; Okabe, Eiji; Saito, Hideo
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|----------|
| WO 9820004 | A1 | 19980514 | WO 1997-JP3896 | 19971027 |
| W: | AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | |
| AU 9747245 | A1 | 19980529 | AU 1997-47245 | 19971027 |
| PRIORITY APPLN. INFO.: | | | JP 1996-307279 | 19961101 |
| | | | WO 1997-JP3896 | 19971027 |
| OTHER SOURCE(S): | | MARPAT 128:315486 | | |
| GI | | | | |

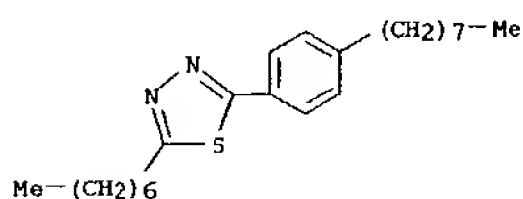


AB The title 2-(4-alkylphenyl)-5-alkylthiadiazoles represented by general formula (I: Ra is C5-C15 alkyl; and Rb is C5-C15 alkyl) are prepared Claimed are ferroelec. liquid crystal compns. containing I. These compds. are liquid-crystal compns. which are usable as the basic substance of ferroelec. liquid crystal compns., have a low viscosity, and exhibit a liquid crystal phase in a low-temperature region. Thus, Et 4-octylbenzoate was sequentially condensed with hydrazine hydrate and octanoyl chloride to give N-(4-octylbenzoyl)-N'-octanoylhydrazine which was cyclocondensed with Lawesson's reagent to give I (Ra = octyl, Rb = heptyl) (II). II showed phase transition point (Cr 38° Sc 44.6° SA 51.3° Iso). A ferroelec. liquid crystal composition containing II (50 weight%) and a mixture of 6 phenylpyrimidine derivs. (45 weight%) and a chiral dopant (III) (5 weight%) showed phase transition point (room temperature-Sc* 54.4 SA 58.9 Iso) and

9/811, 359

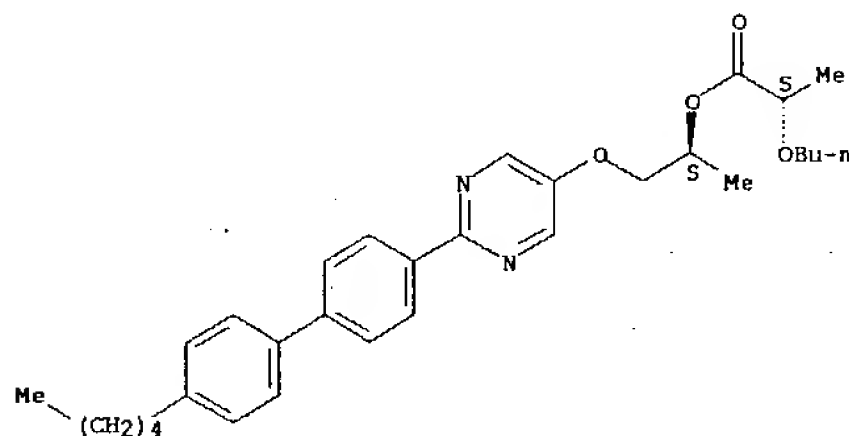
09/ 835,523

L9 ANSWER 92 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
response speed 30.0 μ s at 44.4° in a liq. crystal cell (2 μ m thickness).
IT 206551-21-5
RL: TEM (Technical or engineered material use); USES (Uses)
(preparation of (alkylphenyl)alkylthiadiazoles as liquid crystals for ferroelec. liquid crystal compns.)
RN 206551-21-5 CAPLUS
CN Propanoic acid, 2-butoxy-, (1S)-1-methyl-2-[[2-(4'-pentyl[1,1'-biphenyl]-4-yl)-5-pyrimidinyl]oxy]ethyl ester, (2S)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-hexylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-heptyl-5-(4-octylphenyl)-1,3,4-thiadiazole, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 5-hexyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
CM 1
CRN 206550-94-9
CMF C23 H36 N2 S

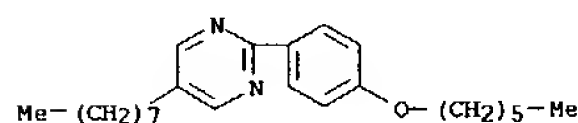


CM 2
CRN 119218-09-6
CMF C31 H40 N2 O4

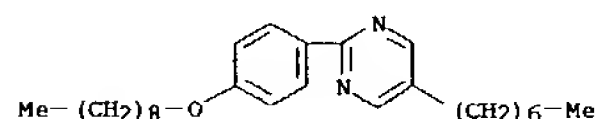
Absolute stereochemistry.



L9 ANSWER 92 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 7
CRN 57202-48-9
CMF C24 H36 N2 O

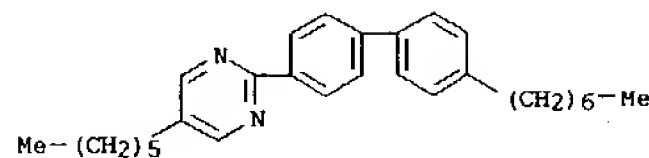


CM 8
CRN 57202-40-1
CMF C26 H40 N2 O

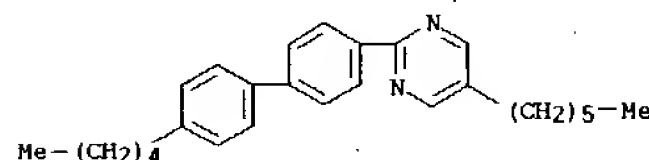


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

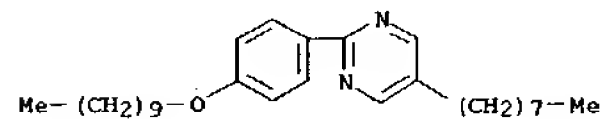
L9 ANSWER 92 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 3
CRN 92519-52-3
CMF C29 H38 N2



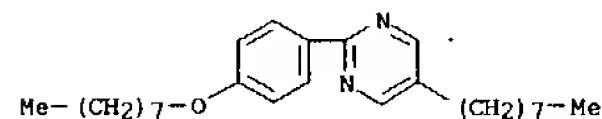
CM 4
CRN 92178-46-6
CMF C27 H34 N2



CM 5
CRN 57202-52-5
CMF C28 H44 N2 O

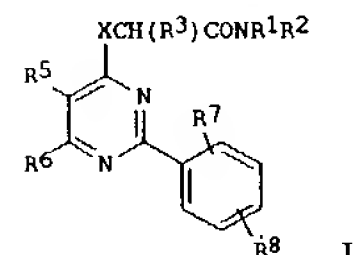


CM 6
CRN 57202-50-3
CMF C26 H40 N2 O



L9 ANSWER 93 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:314282 CAPLUS
DOCUMENT NUMBER: 129:54385
TITLE: Preparation of acetic acid amide derivatives as drugs
INVENTOR(S): Murata, Akiya; Hino, Katsuhiko; Furukawa, Kiyoshi; Oka, Makoto; Ito, Mari
PATENT ASSIGNEE(S): Dainippon Pharmaceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| JP 10130150 | A2 | 19980519 | JP 1997-257573 | 19970905 |
| PRIORITY APPLN. INFO.: | | | JP 1996-257704 | 19960905 |
| OTHER SOURCE(S): | | | MARPAT 129:54385 | |



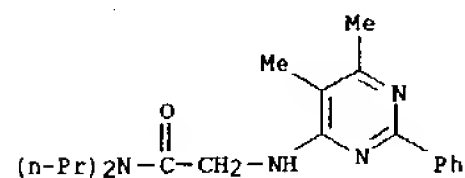
AB The title compds. [I: X = O, NR4; R1 = H, (un)substituted lower alkyl or alkenyl, etc.; R2 = cycloalkyl, lower alkyl, (un)substituted Ph, etc.; R3 = H, alkyl, hydroxyalkyl, etc.; R4 = H, alkyl, or combine with R3 and N to form a pyrrolidine or piperidine; R5 = H, lower alkyl or alkenyl, hydroxyalkyl, CF3, etc.; R6 = H, lower alkyl, CF3, etc.; R7 = H, halo, lower alkyl, etc.; R8 = H, halo, lower alkoxy, etc.] are prepared I, possessing affinity toward the benzodiazepine receptor, are useful for prevention and treatment of melancholia, insecure related diseases, central nervous system diseases, and immunity inflammation diseases. Thus, 4-chloro-5,6-dimethyl-2-phenylpyrimidine was reacted with 2-amino-N,N-dipropylacetamide in the presence of Et3N to give I (R1 = R2 = n-Pr, R3 = R7 = R8 = H, R5 = R6 = Me, X = NH), which showed IC50 of 3.10 nM with benzodiazepine receptor (BZ α 3) when tested with rat. A formulation containing I was also prepared

IT 184107-65-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of acetic acid amide derivs. as drugs)
RN 184107-65-1 CAPLUS
CN Acetamide, 2-[(5,6-dimethyl-2-phenyl-4-pyrimidinyl)amino]-N,N-dipropyl- (9CI) (CA INDEX NAME)

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9/811, 359

L9 ANSWER 93 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



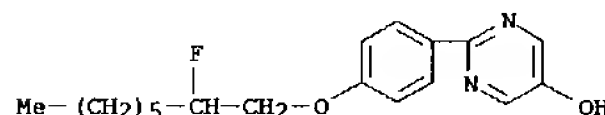
L9 ANSWER 94 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:299178 CAPLUS
DOCUMENT NUMBER: 129:21710
TITLE: Influence of fluorination extent on liquid crystalline properties of semi-perfluorinated phenylpyrimidine ferroelectric liquid crystals
AUTHOR(S): Liu, Hong; Nohira, Hiroyuki
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Saitama University, Saitama, 338, Japan
SOURCE: Liquid Crystals (1998), 24(5), 719-726
CODEN: LICRE6; ISSN: 0267-8292
PUBLISHER: Taylor & Francis Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Semi-perfluorinated ferroelec. liquid crystals, 2-[4-(2-fluorooctyloxy)phenyl]-5-(n-perfluoroalkyloxy)pyrimidines were prepared and their phys. properties evaluated. All of the fluorinated phenylpyrimidines exhibited a chiral smectic C phase enantiotropically. High fluorination extent favors the tilted chiral smectic C phase. Also, highly fluorinated compds. exhibited a large cone tilt angle and large spontaneous polarization. However, the response became slow as the fluorination extent increased. Although the compds. showed a large spontaneous polarization in the pure state, their spontaneous polarization power as chiral dopants was so small that very little spontaneous polarization could be measured.

IT 207790-95-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and etherification of)

RN 207790-95-2 CAPLUS
CN 5-Pyrimidinol, 2-[4-[(2-fluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



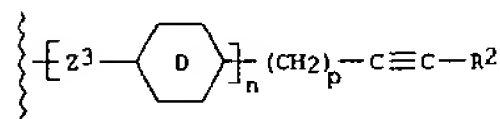
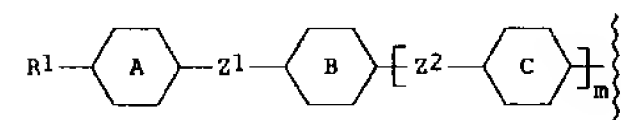
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 95 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:265820 CAPLUS
DOCUMENT NUMBER: 128:328868
TITLE: Liquid crystal compound having alkynyl group for liquid crystal composition for display device
INVENTOR(S): Miyazawa, Kazutoshi; Matsui, Shuichi; Takeuchi, Hiroyuki; Kubo, Yasuhiro; Takeshita, Fusayuki; Nakagawa, Etsuo
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Eur. Pat. Appl., 69 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------------------|------|----------|-----------------|----------|
| EP 837045 | A1 | 19980422 | EP 1997-117945 | 19971016 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 10175888 | A2 | 19980630 | JP 1997-183144 | 19970624 |
| US 5879585 | A | 19990309 | US 1997-948516 | 19971010 |
| PRIORITY APPLN. INFO.: | | | JP 1996-294491 | 19961016 |
| | | | JP 1997-183144 | 19970624 |

OTHER SOURCE(S): MARPAT 128:328868
GI

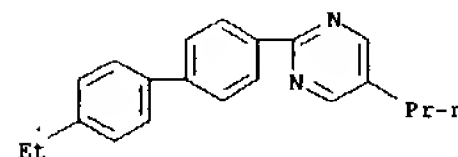


AB A liquid crystal compound having a remarkably high An and good miscibility with other liquid crystalline compds. and expressed by the general formula I wherein R1 represents a halogen atom, a cyano group, or an alkyl or alkenyl group of 1 to 15 carbon atoms in which alkyl or alkenyl group hydrogen atom may be replaced by a fluorine atom and one or not-adjacent two or more methylene groups may be replaced by oxygen atom, -CH=CH- or -CC-; R2 represents an alkyl group of 1 to 10 carbon atoms or a hydrogen atom; rings A, B, C, and D independently represent 1,4-cyclohexylene or 1,4-phenylene in which hydrogen atoms may be replaced by a halogen atom or a cyano group; Z1-3 independently represent a covalent bond or -CH2CH2-; m and n are 0 or 1; p is an integer of 1 to 5; and each of the elements in the general formula may be its isotope is disclosed. A liquid crystal composition and a display device using the compound are also disclosed.

IT 175859-31-1
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

L9 ANSWER 95 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

(electrooptical display devices contg. liq. crystal compns. contg.)
RN 175859-31-1 CAPLUS
CN Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)

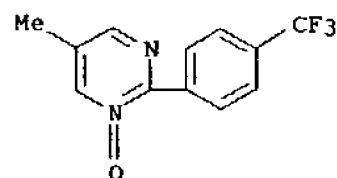


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9/811, 359

09/835,523

L9 ANSWER 96 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:255677 CAPLUS
DOCUMENT NUMBER: 128:321615
TITLE: Carboxamide oximes as convenient precursors for the synthesis of pyrimidine N-oxides
AUTHOR(S): Mlakar, Biserka; Stefane, Bogdan; Kocevar, Marijan; Polanc, Slovenko
CORPORATE SOURCE: Faculty of Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, SI-1000, Slovenia
SOURCE: Tetrahedron (1998), 54(17), 4387-4396
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:321615
AB A general method for the synthesis of pyrimidine N-oxides from the appropriate carboxamide oximes is described. The conversion involves a treatment of various carboxamide oximes with either 1,1,3,3-tetramethoxypropane, 2,4-pentanedione, 3-ethoxy-2-methylpropanal, 4,4-dimethoxy-2-butanone or 4-methoxy-3-buten-2-one in the presence of trifluoroacetic acid as a catalyst. The application of an unsym. dicarbonyl compound leads exclusively to one product. Our approach is a method of choice for the preparation of pyridylpyrimidine N-oxides.
IT 206882-55-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of pyrimidine N-oxides from carboxamide oximes)
RN 206882-55-5 CAPLUS
CN Pyrimidine, 5-methyl-2-[4-(trifluoromethyl)phenyl]-, 1-oxide (9CI) (CA INDEX NAME)

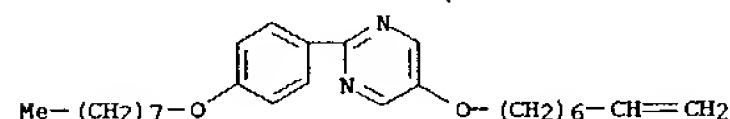


REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 97 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:214477 CAPLUS
DOCUMENT NUMBER: 128:283174
TITLE: Liquid crystal siloxanes and liquid crystal composition
INVENTOR(S): Ichino, Kazuo; Ishibashi, Shigeki
PATENT ASSIGNEE(S): Nippon Telegraph and Telephone Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10087835 | A2 | 19980407 | JP 1996-267736 | 19960919 |

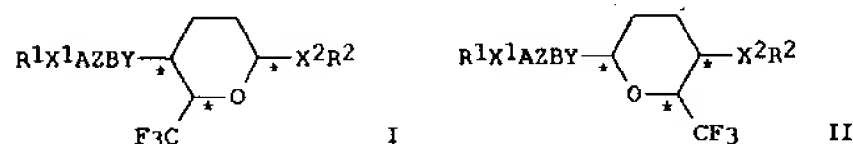
PRIORITY APPLN. INFO.: JP 1996-267736 19960919
AB Siloxane polymers containing pyrimidine-based mesogen groups show liquid crystalline phase in a wide temperature range including room temperature and short response time.
A Me H siloxane was reacted with 5-octenyloxy-2-(4-octyloxyphenyl)pyrimidine and 5-(4-(1-oxa-2-methyloctyl)phenyl)-R-4-[4-(2-(7-octenyloxy)propanoyloxy)phenyl]benzoate to give a liquid crystal polymer.
IT 205869-29-0DP, reaction products with hydrogen siloxanes
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(liquid crystal siloxanes and liquid crystal composition)
RN 205869-29-0 CAPLUS
CN Pyrimidine, 5-(7-octenyloxy)-2-[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 98 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:211299 CAPLUS
DOCUMENT NUMBER: 128:288650
TITLE: Liquid crystal device containing tetrahydropyran derivative and its manufacture
INVENTOR(S): Ito, Keizo; Takeda, Mitsunori; Namekawa, Masaaki
PATENT ASSIGNEE(S): Kashima Oil Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10088139 | A2 | 19980407 | JP 1996-246514 | 19960918 |

PRIORITY APPLN. INFO.: JP 1996-246514 19960918
OTHER SOURCE(S): MARPAT 128:288650
GI

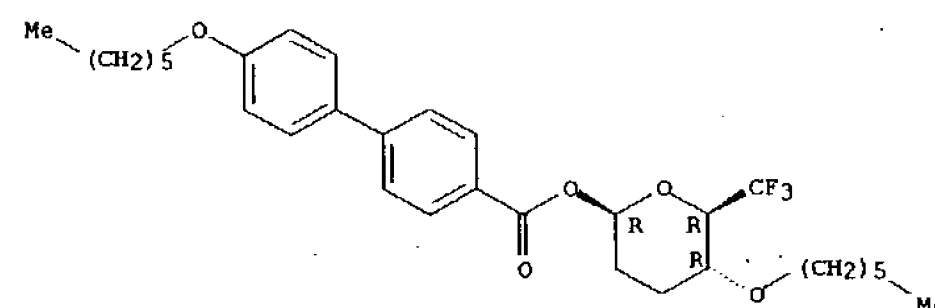


AB The device has a pair of substrate having an orientation-controlling layer and sandwiching a liquid-crystal material containing a chiral nematic phase- and smectic A phase-containing antiferroelec. liquid crystal or an antiferroelec. liquid crystal with shorter spiral pitch than its cell thickness, in which a uniaxially orientation treatment direction of an orientation-controlling layer is pseudoparallel and a liquid crystal mol. adjacent to the layer has pretilt angle to the substrate 2-15°. The material may be an optically active tetrahydropyran derivative I or II [R1 = C3-20 linear or branched alkyl; R2 = C1-15 linear or branched alkyl; X1 = direct bond, O, CO2, OCO; X2 = O, OCO; Y = CO2, O, CH2O; A and B = halo, cyano, (F-containing alkyl-substituted) 6-membered ring; Z = direct bond, CO2, OCO, CH2O, OCH2]. The manufacture method involves (1) injecting the material as an isotropic liquid phase between the substrate and (2) quenching to orient the material via the nematic and the smectic phase. The device shows excellent orientation and high contrast. The device is useful for a display device, an electrochem. device, a liquid crystal sensor, etc.

IT 194412-31-2
RL: DEV (Device component use); USES (Uses)
(liquid crystal mixture; liquid crystal containing antiferroelec. tetrahydropyran and its manufacture)
RN 194412-31-2 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(hexyloxy)-, (2R,5R,6R)-5-(hexyloxy)tetrahydro-6-(trifluoromethyl)-2H-pyran-2-yl ester, , mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-pentyl[1,1'-biphenyl]-4-yl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, (2R,3R,6S)-6-(hexyloxy)tetrahydro-2-(trifluoromethyl)-2H-pyran-3-yl 4'-(hexyloxy)[1,1'-biphenyl]-4-carboxylate and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

L9 ANSWER 98 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 1
CRN 158039-95-3
CMF C31 H41 F3 O5

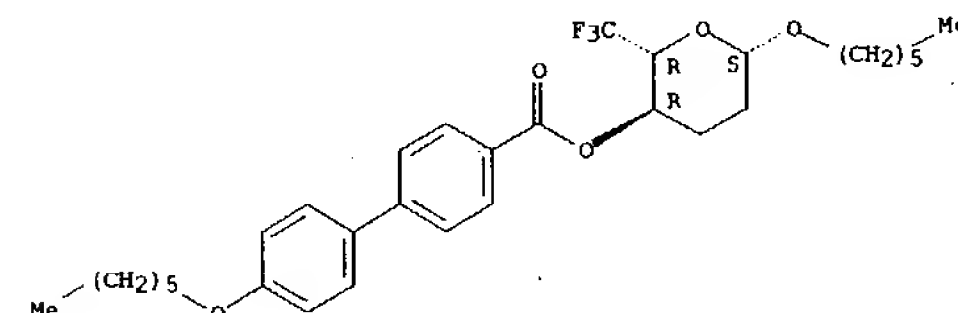
Absolute stereochemistry.



CM 2

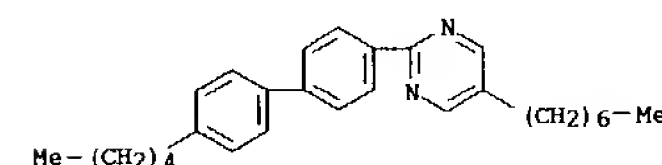
CRN 150458-45-0
CMF C31 H41 F3 O5

Absolute stereochemistry.



CM 3

CRN 92528-52-4
CMF C28 H36 N2



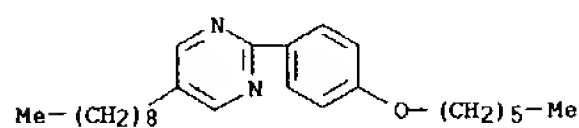
CM 4

CRN 57202-56-9

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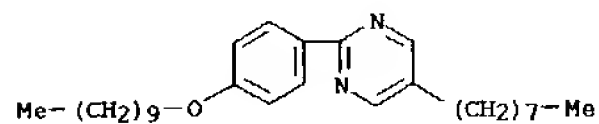
09/835,523

L9 ANSWER 98 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C25 H38 N2 O



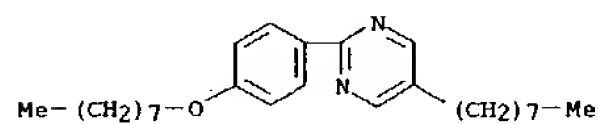
CM 5

CRN 57202-52-5
CMF C28 H44 N2 O



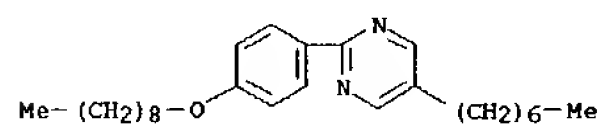
CM 6

CRN 57202-50-3
CMF C26 H40 N2 O



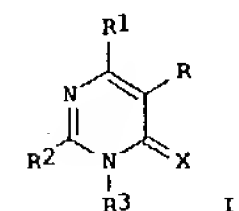
CM 7

CRN 57202-40-1
CMF C26 H40 N2 O



L9 ANSWER 100 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:178148 CAPLUS
DOCUMENT NUMBER: 128:227320
TITLE: Preparation of 2-arylpyrimidines as herbicides
INVENTOR(S): Tice, Colin Michael; Musco, Vincent Angelo; Roemmele, Renee Caroline; Warner, Harlow Lester
PATENT ASSIGNEE(S): Rohm and Haas Co., USA
SOURCE: U.S., 30 pp., Cont.-in-part of U.S. 5,453,414.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

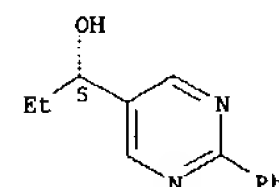
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------|------|----------|----------------------------------------|-------------|
| US 5726124 | A | 19980310 | US 1994-331249 | 19941028 |
| US 5300477 | A | 19940405 | US 1993-62802 | 19930520 |
| US 5453414 | A | 19950926 | US 1994-185579 | 19940118 |
| EP 663396 | A1 | 19950719 | EP 1994-309757 | 19941223 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE | | | | |
| AU 9481812 | A1 | 19950727 | AU 1994-81812 | 19941230 |
| AU 697648 | B2 | 19981015 | | |
| CA 2140182 | AA | 19950719 | CA 1995-2140182 | 19950113 |
| HU 70087 | A2 | 19950928 | HU 1995-135 | 19950117 |
| CN 1109879 | A | 19951011 | CN 1995-101695 | 19950117 |
| BR 9500248 | A | 19951017 | BR 1995-248 | 19950118 |
| JP 07278119 | A2 | 19951024 | JP 1995-23485 | 19950118 |
| PRIORITY APPLN. INFO.: | | | US 1992-916247 | B2 19920717 |
| | | | US 1993-62802 | A2 19930520 |
| | | | US 1994-185579 | A2 19940118 |
| | | | US 1994-331249 | A 19941028 |
| OTHER SOURCE(S): | | | CASREACT 128:227320; MARPAT 128:227320 | |
| GI | | | | |



AB The 2-arylpyrimidines I [R= acyl, alkoxyalkyl, alkoxyimino, dialkoxyalkyl, formyl, hydroxyalkyl, alkoxyalkoxy, cyanoalkyl or hydroxyimino; R1 = H, halo, alkyl, haloalkyl, aryl or alkoxy; R2 = (un)substituted aryl; R3 = saturated or unsatd. alkyl; X = O or S] are prepared as herbicides.
IT 158715-05-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in preparation of 2-arylpyrimidine derivative herbicides)
RN 158715-05-0 CAPLUS
CN 4(1H)-Pyrimidinone, 5-ethyl-6-hydroxy-2-phenyl- (9CI) (CA INDEX NAME)

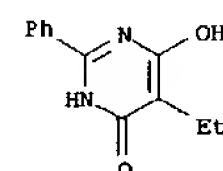
L9 ANSWER 99 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:190876 CAPLUS
DOCUMENT NUMBER: 128:270580
TITLE: Asymmetric synthesis of various chiral 5-pyrimidyl-alkanols by the enantioselective alkylation of pyrimidine-5-carbaldehydes with dialkylzincs in the presence of chiral amino alcohols
AUTHOR(S): Shibata, Takanori; Hayase, Tadakatsu; Aiba, Yasuyuki; Tabira, Hayami; Soai, Kenso
CORPORATE SOURCE: Dep. Applied Chem., Fac. Sci., Science Univ. of Tokyo, Tokyo, 162, Japan
SOURCE: Heterocycles (1997), 46, 235-240
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:270580
AB (1S,2R)-N,N-Dibutylnorephedrine catalyzes the enantioselective addition of dialkylzincs to various pyrimidine-5-carboxaldehydes. Ethylation and butylation proceed with high enantioselectivities (up to 94% e.e.) to give optically active secondary 5-pyrimidinylalkanols.
IT 205518-93-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(asym. synthesis of pyrimidinealkanols by enantioselective alkylation of pyrimidinecarboxaldehydes with dialkylzincs in the presence of chiral amino alcs.)
RN 205518-93-0 CAPLUS
CN 5-Pyrimidinemethanol, α-ethyl-2-phenyl-, (5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 100 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

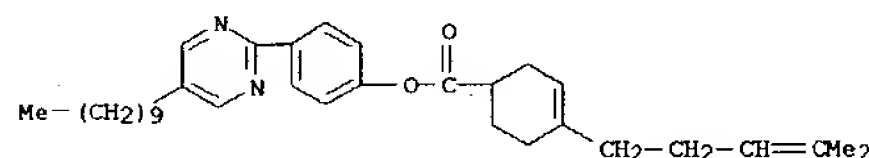


REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9/811, 359

09/835,523

L9 ANSWER 101 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:159432 CAPLUS
DOCUMENT NUMBER: 128:223771
TITLE: FLC materials for microdisplay applications
AUTHOR(S): Thurmes, William N.; Wand, Michael D.; Vohra, Rohini T.; More, Kundalika M.
CORPORATE SOURCE: Displaytech, Inc., Longmont, CO, 80503, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1998), 3318(Liquid Crystals: Physics, Technology and Applications), 448-453
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB FLCs (ferroelec. liquid crystals) exhibit the electrooptic speed necessary for construction of full color, high resolution DRAM-based microdisplays. Special FLC materials are required to meet the performance characteristics required of these reflective microdisplays. The specifications for FLC mixts. for several applications, an approach to formulating them, and several key dopants used to attain the mixture specifications are presented herein.
IT 155468-58-9, MDW 336
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(ferroelec. liquid crystal mixts. for microdisplay applications)
RN 155468-58-9 CAPLUS
CN 3-Cyclohexene-1-carboxylic acid, 4-(4-methyl-3-pentenyl)-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)

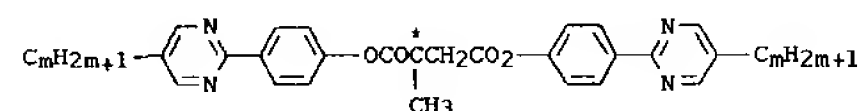


REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 102 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:157609 CAPLUS
DOCUMENT NUMBER: 128:237549
TITLE: 2-Methylsuccinate diester, liquid crystalline composition containing the diester, and manufacture of the diester
INVENTOR(S): Fukumasa, Mitsumutsu; Okata, Tomomi
PATENT ASSIGNEE(S): Japan Energy K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 10067708 | A2 | 19980310 | JP 1996-239958 | 19960823 |
| PRIORITY APPLN. INFO.: | | | JP 1996-239958 | 19960823 |
| OTHER SOURCE(S): | | | MARPAT 128:237549 | |

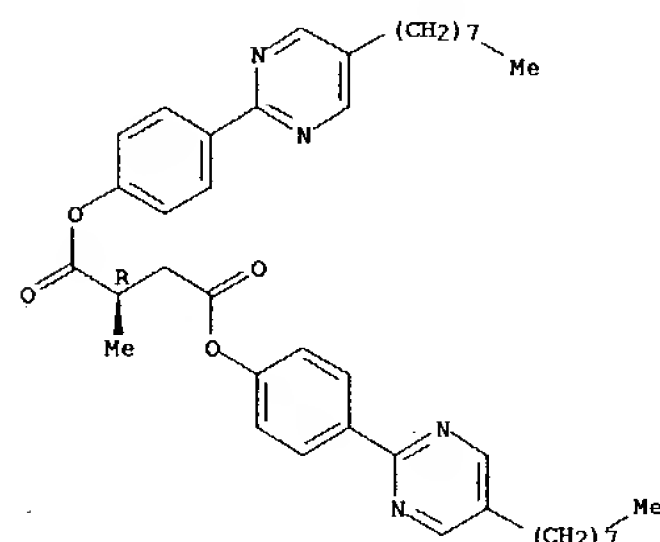
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AB The diester for liquid crystal composition is represented as R1Q1OCOCMeCH2CO2Q2R2 (Q1, Q2 = group whose structure is the same or similar to base liquid crystal; R1, R2 = flexible group which has an influence on phase-transition temperature of base liquid crystal however no influence on the helical structure). The diester having optical activity corresponding to COCMeCH2 as asym. center and the liquid crystalline composition comprising 21 of the optical diester and (a) a cholesteric or chiral smectic ferroelec. liquid crystal or (b) a smectic liquid crystal containing 4-cyano-4'-alkylbiphenyl or 4-cyano-4'-alkoxybiphenyl are also claimed. Further claimed are (A) optically active 2-methylsuccinate ester I (m = 1-18) or XC6H4C6H4OCOCMeCH2CO2C6H4C6H4X (II; all p-), (B) manufacture of I from 5-alkyl-2-(4-hydroxyphenyl)pyrimidine and optically active 2-methylsuccinic acid (III), and (C) manufacture of II from p-XC6H4-p-C6H4OH and III. The diester having high twisting power and weak spontaneous polarization contributes to control of helical pitch of liquid crystal composition without affecting the phys. consts.
IT 204515-78-6P, Di[4-(5-octylpyrimidin-2-yl)phenyl]
(R)-2-methylsuccinate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optically active methylsuccinate diester for regulation of helical pitch of liquid crystal composition)
RN 204515-78-6 CAPLUS
CN Butanedioic acid, methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 102 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 103 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:157607 CAPLUS
DOCUMENT NUMBER: 128:277194
TITLE: Liquid-crystalline compound, liquid crystal composition, and liquid crystal display device
INVENTOR(S): Miyasawa, Kazutoshi; Takeuchi, Hiroyuki; Matsui, Akiichi; Hachitani, Norihisa; Takeshita, Fusayuki; Nakagawa, Etsuo
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 10067694 | A2 | 19980310 | JP 1996-242697 | 19960826 |
| PRIORITY APPLN. INFO.: | | | JP 1996-242697 | 19960826 |
| OTHER SOURCE(S): | | | MARPAT 128:277194 | |

GI

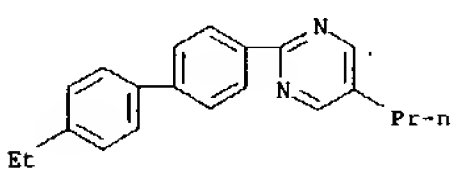


AB The compound is represented as R1QR2(Q1Z1)p(Q2Z2)qQ3ZQ4(CH2)mCH:CFX [R1 = H, F, Cl, C1-18 alkyl whose methylene may be substituted with O, S, CH:CH, or C.tplbond.C and H may be substituted with halo, cyano; R2 = covalent bond, C1-8 α - ω alkylene whose methylene and H may be substituted as described; Q = CX1H, CX1X2, CYH, I, II, III; X1, X2 = F, Cl; Y = C1-5 alkyl, Q1-Q3 = (halogen-substituted) 1,4-cyclohexylene, 1,4-cyclohexenylene, 1,4-phenylene, 1,3-dioxane-2,5-diyl, pyridine-2,5-diyl, pyrimidine-2,5-diyl; Z1-Z3 = covalent bond, CH2CH2, CH:CH, C.tplbond.C, CH2O, OCH2, (CH2)4, (CH2)3O, O(CH2)3, (CH2)2CH:CH, CH:CH(CH2)2, CF2O, OCF2, CMeCH:CH, CH:CMe, CF:CF; X = H, F; p, q = 0, 1; m = 0-5; Q4 = trans-1,4-cyclohexylene; each element may be substituted with its isotope.]. The compound shows sharp threshold characteristics, low viscosity, and good compatibility to other liquid-crystalline components. Liquid crystal composition containing the compound and other components (specific Markush structures are shown in the claim) and liquid crystal display device using the composition are also claimed.
IT 175859-31-1
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid-crystalline compound having sharp threshold characteristics and low viscosity for liquid crystal composition showing improved compatibility)
RN 175859-31-1 CAPLUS
CN Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)

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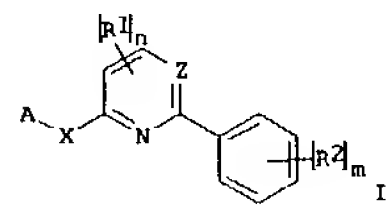
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L9 ANSWER 103 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



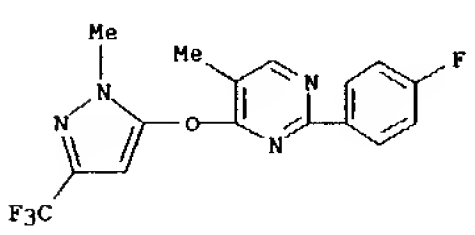
L9 ANSWER 104 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:154790 CAPLUS
DOCUMENT NUMBER: 128:167441
TITLE: Preparation of herbicidal 2,6-disubstituted pyridines and 2,4-disubstituted pyrimidines
INVENTOR(S): Kleemann, Axel; Baltruschat, Helmut Siegfried; Maier, Thomas; Scheiblich, Stefan
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: Eur. Pat. Appl., 45 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| EP 823431 | A1 | 19980211 | EP 1997-305994 | 19970806 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| US 5849758 | A | 19981215 | US 1996-693422 | 19960807 |
| PRIORITY APPLN. INFO.: US 1996-693422 A 19960807 | | | | |
| OTHER SOURCE(S): MARPAT 128:167441 | | | | |
| GI | | | | |



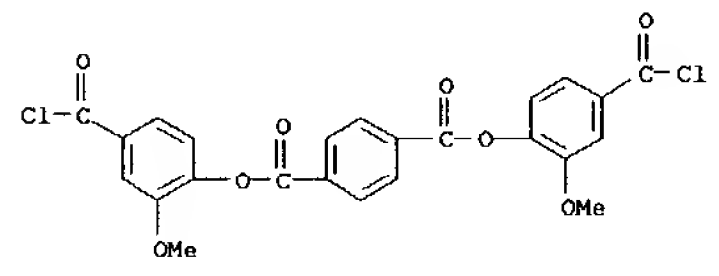
AB The title compds. [I; A = (un)substituted aryl, 5-6 membered nitrogen-containing heteroaryl, difluorobenzodioxolyl; m = 0-5; n = 0-2; R1 = H, halo, (un)substituted alkyl, etc.; R2 = H, halo, (un)substituted alkyl, etc.; X = O, S; Z = N, CH; with the proviso that if A = 1-methyl-3-trifluoromethyl-pyrazol-5-yl, n = 0, X = O and Z = CH, then R2m does not represent H, 3-CF3, 2,4-Cl2 or 2,4-Me2], useful as herbicides, were prepared. Thus, reaction of 2-bromo-6-phenylpyridine with 1-methyl-3-trifluoromethyl-5-hydroxypyrazole in the presence of K2CO3 in DMF afforded 52% I [A = 1-methyl-3-trifluoromethylpyrazol-5-yl; X = O; Z = CH; R1 = R2 = H]. Compound I [A = 1-methyl-3-trifluoromethylpyrazol-5-yl; X = O; Z = CH; R1 = H; R2 = 3-CF3] showed complete control against Beta vulgaris and Zea mays in preemergence application at 100 g/ha.
IT 180607-17-4P
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of herbicidal 2,6-disubstituted pyridines and 2,4-disubstituted pyrimidines)
RN 180607-17-4 CAPLUS
CN Pyrimidine, 2-(4-fluorophenyl)-5-methyl-4-[[1-methyl-3-(trifluoromethyl)-

L9 ANSWER 104 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
1H-pyrazol-5-yl]oxy]- (9CI) (CA INDEX NAME)

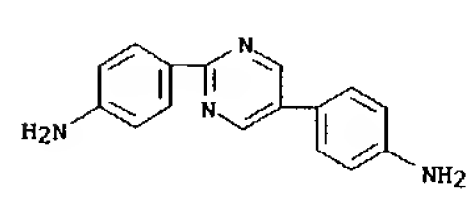


REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 105 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:136415 CAPLUS
DOCUMENT NUMBER: 128:180722
TITLE: New bifunctional monomer, terephthaloylbis(3-methoxy-4-oxybenzoic acid), and polyamides from it
AUTHOR(S): Gokhman, M. Ya.; Podeshvo, I. V.; Mikhailov, G. M.; Baklagina, Yu. G.; Kudryavtsev, V. V.; Lukasov, S. V.; Lebedeva, M. F.; Bobrova, N. V.; Sazanov, Yu. N.; Fedorova, G. N.; Mikhailova, M. V.; Deineko, I. P.
CORPORATE SOURCE: Inst. Vysokomol. Soedin., RAN, St. Petersburg, Russia
SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg) (1997), 70(11), 1885-1889
CODEN: ZPKHAB; ISSN: 0044-4618
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Terephthaloylbis(3-methoxy-4-oxybenzoic acid) was synthesized from vanillic acid and terephthaloyl chloride. Phys. and mech. properties as well as thermal stability were studied for polyamide films based on the synthesized monomer and various aromatic diamines.
IT 203304-54-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation of terephthaloylbis(3-methoxy-4-oxybenzoic acid) bifunctional monomer and polyamides from it)
RN 203304-54-5 CAPLUS
CN 1,4-Benzenedicarboxylic acid, bis[4-(chlorocarbonyl)-2-methoxyphenyl] ester, polymer with 4,4'-oxybis[benzenamine] and 4,4'-(2,5-pyrimidinediyl)bis[benzenamine] (9CI) (CA INDEX NAME)
CM 1
CRN 203304-37-4
CMF C24 H16 Cl2 O8



CM 2
CRN 102570-64-9
CMF C16 H14 N4



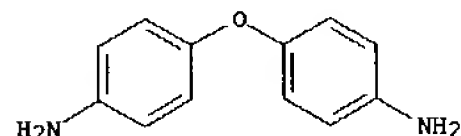
09/ 835,523

9/811, 359

L9 ANSWER 105 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

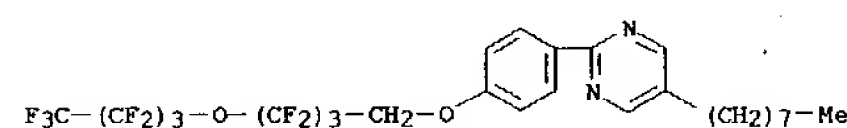
CM 3

CRN 101-80-4
CMF C12 H12 N2 O



L9 ANSWER 106 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:115915 CAPLUS
DOCUMENT NUMBER: 128:193476
TITLE: Liquid crystal components and display devices
INVENTOR(S): Nakazawa, Ikuo; Terada, Tadahiyo; Asaoka, Masanobu; Shimizu, Yasushi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 10045909 | A2 | 19980217 | JP 1996-216982 | 19960731 |
| PRIORITY APPLN. INFO.: | | | JP 1996-216982 | 19960731 |
| OTHER SOURCE(S): MARPAT 128:193476 | | | | |
| AB Liquid crystal elements having reduced margin degradation due to afterimage and good driving stability and durability comprise fluorine-containing chiral smectic liquid crystal layer and a pair of substrate boards having an electrode and an polyimide orientation-control layer. The polyimides for the orientation-control layer are prepared from aliphatic or aromatic tetracarboxylic dianhydrides and diaminoalkylenes. The fluorine-containing chiral smectic liquid crystalline compds. are characterized by having a fluorocarbon terminal and a hydrocarbon terminal. | | | | |
| IT 152915-24-7 RL: DEV (Device component use); USES (Uses) (liquid crystal components having polyimide orientation-control layer and fluorine-containing liquid crystalline compds. and display devices) | | | | |
| RN 152915-24-7 CAPLUS | | | | |
| CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME) | | | | |



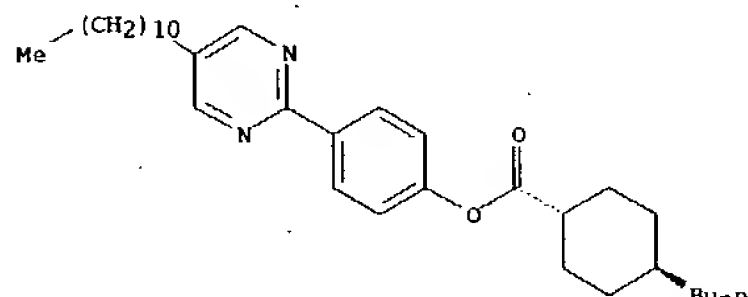
L9 ANSWER 107 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:108200 CAPLUS
DOCUMENT NUMBER: 128:210966
TITLE: Manufacture of ferroelectric liquid-crystal composition for display
INVENTOR(S): Takiguchi, Takao; Nakamura, Shinichi; Utagawa, Masako
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 10046149 | A2 | 19980217 | JP 1996-216983 | 19960731 |
| PRIORITY APPLN. INFO.: | | | JP 1996-216983 | 19960731 |
| AB The manufacturing method involves the processes of (1) purifying 21 liquid-crystal compound by using 10-50 weight% (vs. the compound) active C and (2) mixing the purified compound with other components for the liquid-crystal composition. The composition shows good switching property in a uniform state and gives high-contrast images. | | | | |
| IT 204079-42-5 RL: DEV (Device component use); USES (Uses) (purification of liquid-crystal compound by active carbon in manufacture of ferroelec. liquid-crystal composition for display) | | | | |
| RN 204079-42-5 CAPLUS | | | | |
| CN Cyclohexanecarboxylic acid, 4-butyl-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester, trans-, mixt. with 5-decyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 5-dodecyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine, trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate and trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-propylcyclohexanecarboxylate (9CI) (CA INDEX NAME) | | | | |

CM 1

CRN 121639-89-2
CMF C32 H48 N2 O2

Relative stereochemistry.

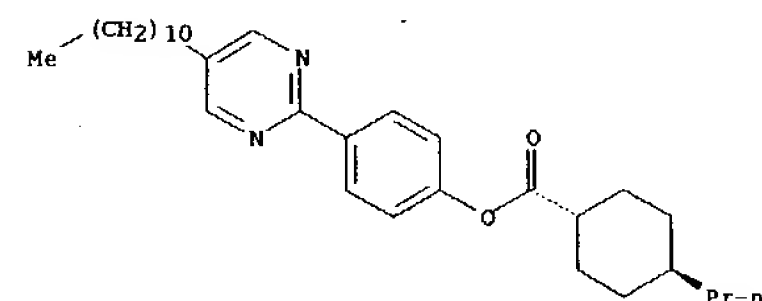


CM 2

CRN 121639-88-1

L9 ANSWER 107 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C31 H46 N2 O2

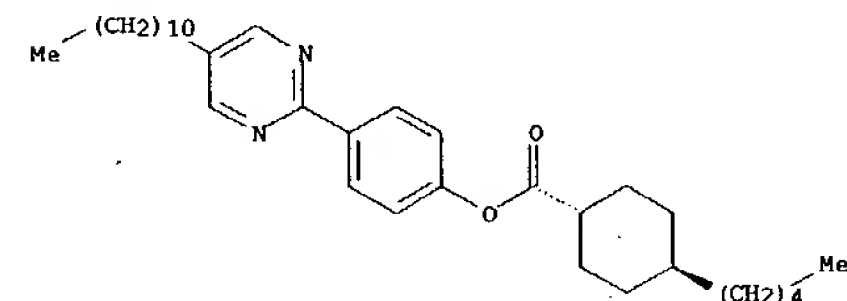
Relative stereochemistry.



CM 3

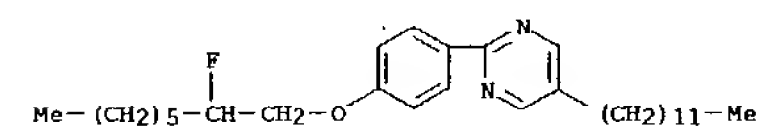
CRN 121083-94-1
CMF C33 H50 N2 O2

Relative stereochemistry.



CM 4

CRN 116529-05-6
CMF C30 H47 F N2 O



CM 5

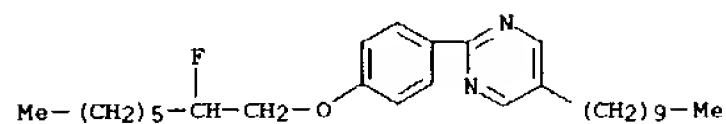
CRN 113701-90-9
CMF C28 H43 F N2 O

9/811, 359

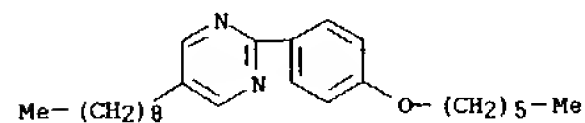
09/ 835, 523



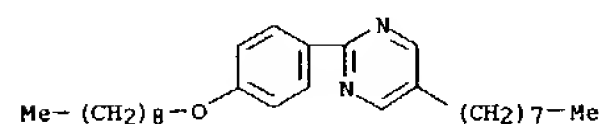
L9 ANSWER 107 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



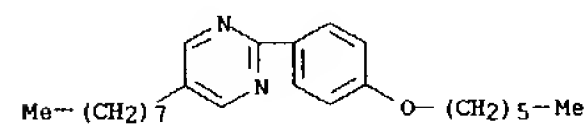
CM 6

CRN 57202-56-9
CMF C25 H38 N2 O

CM 7

CRN 57202-51-4
CMF C27 H42 N2 O

CM 8

CRN 57202-48-9
CMF C24 H36 N2 O

L9 ANSWER 108 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:90219 CAPLUS
DOCUMENT NUMBER: 128:225733

TITLE: Anti-Pneumocystis carinii pneumonia activity of dicationic diaryl methylpyrimidines

AUTHOR(S): Boykin, D. W.; Kumar, A.; Bajic, M.; Xiao, G.; Wilson, W. D.; Bender, B. C.; McCurdy, D. R.; Hall, J. E.; Tidwell, R. R.

CORPORATE SOURCE: Department of Chemistry and Center for Biotechnology and Drug Design, Georgia State University, Atlanta, GA, 30303-3083, USA

SOURCE: European Journal of Medicinal Chemistry (1997), 32(12), 965-972

CODEN: EJMCA5; ISSN: 0223-5234

PUBLISHER: Editions Scientifiques et Medicales Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

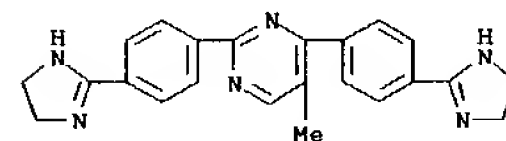
AB Synthesis of 2,4-bis-(4-amidinophenyl)-5-methylpyrimidine 5, 2,4-bis-(4-imidazolin-2-yl)phenyl]-6-methylpyrimidine 5, 2,4-bis-(4-N-i-propylamidino)phenyl]-6-methylpyrimidine 7, and 2,4-bis-(4-N-isopentylamidino)phenyl]-6-methylpyrimidine 8 starting from 4-bromobenzamidine and 4'-bromoacetophenone is reported. The synthesis of 2,4-bis-(4-amidinophenyl)-5-methylpyrimidine 12 and 2,4-bis-(4-imidazolin-2-yl)phenyl]-5-methylpyrimidine 13, also beginning with 4-bromobenzamidine and 4'-bromo-propiofenone is described. A synthesis of 4,6-bis-(4-amidinophenyl)-2-methylpyrimidine 17, 4,6-bis-(4-imidazolin-2-yl)phenyl]-2-methylpyrimidine 18, 4,6-bis-(4-N-i-propylamidino)phenyl]-2-methylpyrimidine 19 and 4,6-bis-(4-N-n-propylamidino)phenyl]-2-methylpyrimidine 20 starting from acetamidine and 1,3-bis-(4-bromophenyl)propenone is reported. Compds. 5-7 and 17-20 all bind strongly to the minor groove of poly-dA•dT whereas 8, 12 and 13 bind less tightly as judged by their AT_m values. A similar trend was noted for binding of these compds. to the 12-mer-d(CGCGAATTCGCG)2. Compds. 5, 7 and 17 are more active and less toxic than pentamidine at its ED when evaluated against Pneumocystis carinii pneumonia (PCP) in the immunosuppressed rat model.

IT 160522-95-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(anti-pneumocystis carinii pneumonia activity of dicationic diaryl methylpyrimidines)

RN 160522-95-2 CAPLUS

CN Pyrimidine, 2,4-bis[4-(4,5-dihydro-1H-imidazol-2-yl)phenyl]-5-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 108 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 109 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:87715 CAPLUS
DOCUMENT NUMBER: 128:140720

TITLE: Preparation and formulation of pyrimidine derivatives as endothelin B antagonists

INVENTOR(S): Kawanishi, Yasuyuki; Kanda, Yasuhiko; Konoike, Toshiro

PATENT ASSIGNEE(S): Shionogi & Co., Ltd., Japan

SOURCE: PCT Int. Appl., 45 pp.

CODEN: PIXXD2

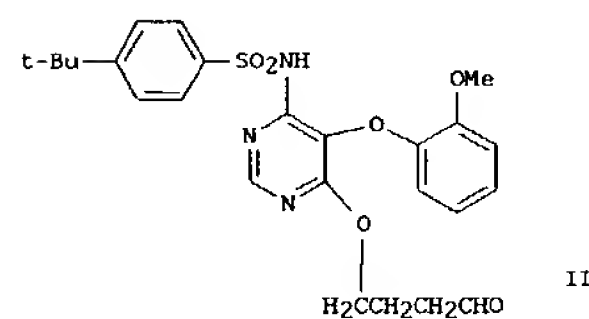
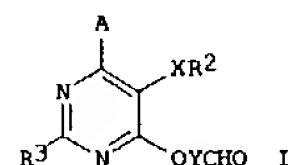
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------|-----------------|----------|
| WO 9803488 | A1 | 19980129 | WO 1997-JP2408 | 19970711 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LX, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9734596 | A1 | 19980210 | AU 1997-34596 | 19970711 |
| PRIORITY APPLN. INFO.: | | | JP 1996-193014 | 19960723 |
| | | | WO 1997-JP2408 | 19970711 |
| OTHER SOURCE(S): | | MARPAT 128:140720 | | |
| GI | | | | |



AB The title compds. I [A is R1W, etc.; R1 is optionally substituted aryl; W is SO2NH, CONH, etc.; R2 is optionally substituted aryl, etc.; R3 is

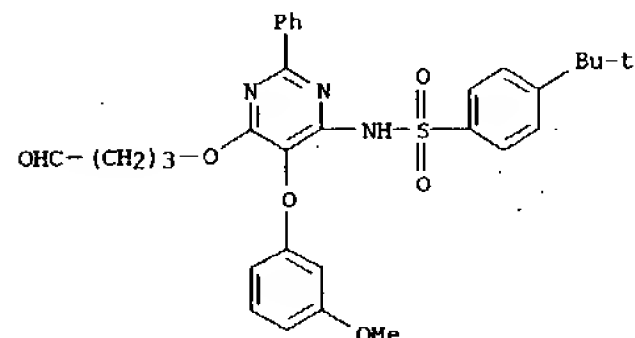
9/811, 359

09/835,523

L9 ANSWER 109 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
hydrogen, optionally substituted alkyl or optionally substituted aryl; and
X is O, S or a single bond] are prep'd. In an in vitro test for affinity
for the endothelin B receptors, the title comp'd. II showed IC50 of 0.15
nM; in the in vitro test for affinity for the endothelin A receptors, II
showed IC50 of 910 nM.

IT 202287-88-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyrimidine derivs. as endothelin B antagonists)

RN 202287-88-5 CAPLUS
CN Benzenesulfonamide, 4-[(1,1-dimethylethyl)-N-[5-(3-methoxyphenoxy)-6-(4-oxobutoxy)-2-phenyl-4-pyrimidinyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

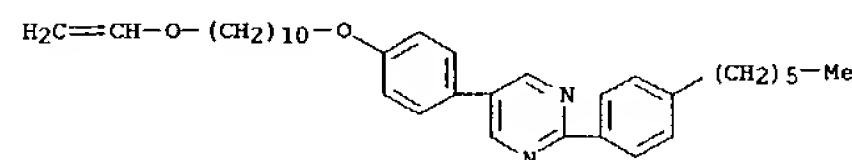
L9 ANSWER 110 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:61742 CAPLUS
DOCUMENT NUMBER: 128:102458
TITLE: High-temperature ferroelectric liquid crystals
AUTHOR(S): Thurmes, William N.; Wand, Michael D.; Vohra, Rohini
T.; More, Kundalika. M.
CORPORATE SOURCE: Displaytech, Inc., Boulder, CO, 80301, USA
SOURCE: Molecular Crystals and Liquid Crystals Science and
Technology, Section A: Molecular Crystals and Liquid
Crystals (1997), 299, 129-135
CODEN: MCLCE9; ISSN: 1058-725X
Gordon & Breach Science Publishers
PUBLISHER: Journal
DOCUMENT TYPE: English
LANGUAGE: English
AB Liquid crystals at high temperature are useful for, among other purposes, broad
temperature pressure sensors. In an attempt to design high-temperature smectic C
phase materials, the authors synthesized a variety of mesogenic oligomers
and polymers. These polymers are, to the authors' knowledge, (1) the
first carbon-based smectic C main chain polymer, (2) the first
imide-containing smectic C liquid crystal, (3) the third highest temperature
smectic A
phase reported (317°C), and (4) the highest temperature chiral smectic A
phase reported (304°C).

IT 201404-57-1P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(preparation and characterization of high-temperature ferroelec. (non)polymeric
liquid crystals)

RN 201404-57-1 CAPLUS
CN Pyrimidine, 5-[4-[[10-(ethenyloxy)decyl]oxy]phenyl]-2-(4-hexylphenyl)-,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 201404-56-0
CMF C34 H46 N2 O2

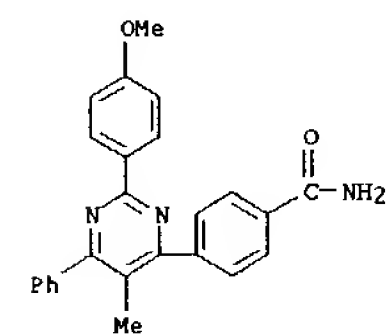


REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 111 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:48185 CAPLUS
DOCUMENT NUMBER: 128:102053
TITLE: Key Intermediates in Combinatorial Chemistry: Access
to Various Heterocycles from α,β -
Unsaturated Ketones on Solid Phase
AUTHOR(S): Marzinzik, Andreas L.; Felder, Eduard R.
CORPORATE SOURCE: Novartis Pharma AG, Core Technology Area, Basel,
CH-4002, Switz.
SOURCE: Journal of Organic Chemistry (1998), 63(3), 723-727
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The value of α,β -unsatd. ketones as key intermediates for the
combinatorial assembly of four different templates on the solid phase,
namely pyrimidines, dihydropyrimidinones, pyridines, and pyrazoles, was
explored with individual syntheses of variably substituted model compds.
Starting from aldehydes grafted on polystyrene support, the Wittig and the
Claisen-Schmidt reaction conditions were adapted to efficiently prepare
 α,β -unsatd. ketones on the solid phase. Further derivatization
of the α,β -unsatd. ketones to form pyrimidines succeeded with a
number of amidines. In a feasibility study, the potential to obtain, in a
modular fashion, other small heterocycles from the same intermediates was
assessed. In this solid-phase approach, α,β -unsatd. carbonyl
intermediates can act as a three-carbon component and a primary enamine is
utilized to complement the system for pyridine ring formation. Instead,
with N-methylurea a dihydropyrimidinone is obtained. As an alternative,
substituted hydrazines are incorporated in one orientation, providing
pyrazoles with defined regioisomerism. The study indicates that
 α,β -unsatd. ketones grafted on the solid phase can take a
pivotal role as branching points in a number of synthetic diversity schemes
and, therefore, represent versatile intermediates for the efficient preparation
of combinatorial small mol. libraries.

IT 201222-96-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of combinatorial libraries of heterocycles using
 α,β -unsatd. ketones as key intermediates on solid phase)

RN 201222-96-0 CAPLUS
CN Benzamide, 4-[2-(4-methoxyphenyl)-5-methyl-6-phenyl-4-pyrimidinyl]- (9CI)
(CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

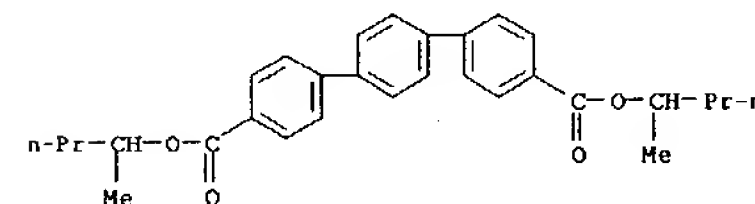
L9 ANSWER 112 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:24856 CAPLUS
DOCUMENT NUMBER: 128:187346
TITLE: Surface tension effects in thin FLC films
AUTHOR(S): Pikin, S.; Blinov, L.; Biradar, A.; Saxena, K.;
Beresnev, L.; Haase, W.
CORPORATE SOURCE: Institut für Physikalische Chemie Technische
Hochschule Darmstadt, Darmstadt, 64287, Germany
SOURCE: Molecular Crystals and Liquid Crystals Science and
Technology, Section C: Molecular Materials (1997),
9(1), 87-107
CODEN: MOMAEO; ISSN: 1058-7276
Gordon & Breach Science Publishers
PUBLISHER: Journal
DOCUMENT TYPE: English
LANGUAGE: English
AB The effects of cell thickness on the pretransitional behavior of
ferroelec. liquid crystals are studied exptl. and theor. for thin cells.
The effects of the induced biaxiality in new chiral smectic mixts. are
taken into account. The temperature and field dependences of the tilt angle,
polarization, polarization to tilt angle ratio, dielec. permeability,
relaxation frequency and of the pyroelec. coefficient are considered in detail
in the framework of a simple model for the surface tension. Apparent
values of the phenomenol. coeffs. in the free energy expansion and some
bulk and surface material parameters are estimated

IT 200343-75-5, FLC-441
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(surface tension effects in thin ferroelec. liquid crystal films)

RN 200343-75-5 CAPLUS
CN [1,1':4',1''-Terphenyl]-4,4''-dicarboxylic acid, bis(1-methylbutyl) ester,
mixt. with butyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and
5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 134853-20-6
CMF C30 H34 O4



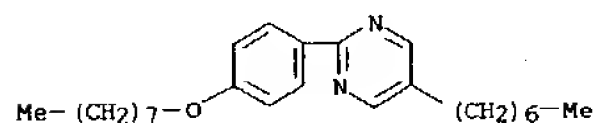
CM 2

CRN 61966-09-4
CMF C25 H34 O3

9/811,359

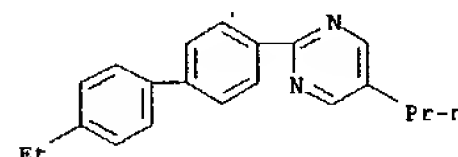
CCCCOC(=O)c1ccc(cc1)-c2ccc(OCCCCCCCC)cc2

CRN 57202-39-8
CMF C25 H38 N2 O



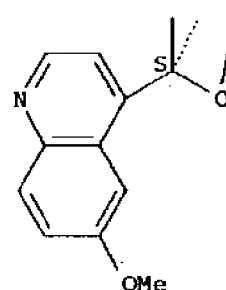
19 ANSWER 113 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:802091 CAPLUS
DOCUMENT NUMBER: 128:121827
TITLE: Liquid-crystalline alkadiene compounds, compositions
containing them, and liquid crystal display
INVENTOR(S): Onishi, Noriyuki; Matsui, Akiichi; Takeuchi, Hiroyuki;
Kubo, Yasuhiro; Nakagawa, Etsuo
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Jpn: Kokai Tokkyo Koho, 63 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|----------|
| JP 09323944 | A2 | 19971216 | JP 1996-165278 | 19960604 |
| PRIORITY APPLN. INFO.: | | | JP 1996-165278 | 19960604 |
| <p>AB The compds. have a general formula $\text{ROAO}(\text{ZOAl})1(\text{CH}_2)\text{oCH}:\text{CH}(\text{CH}_2)\text{mCH}:\text{CH}(\text{CH}_2)\text{p}$ (A2Z1)nA3R1 [1: A0-3 = 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl, 1,4-phenylene which may have ≥ 1 halo, pyridine-2,5-diyl, 1,3-pyrimidine-2,5-diyl; R0-1 = halo, cyano, C1-20 alkyl in which CH2 may be replaced with O, S, Si, CH:CH, or C.tplbond.C; Z0-1 = direct bond, CH2CH2, CH2O, OCH2, CO2, OCO, CF2O, OCF2, (CH2)4; 1. n = 0-2; m = 1-4; o, p = 0-4; 1 + n \leq 2; m + o + p \leq 4; the constituent atoms may be replaced with the isotopes]. Also claimed are liquid crystal compns. containing ≥ 1 I as the 1st component and ≥ 1 2nd component selected from compds. represented by given 7 structures and a liquid crystal display using the compns. I show extremely large elastic constant ratio K33/K11, low viscosity, good chemical stability, and large dielec. anisotropy, and addition of a small amount of I to compns. for super-twisted nematic displays prevents generation of after-images.</p> | | | | |
| IT | <p>175859-31-1D, mixts. containing RL: DEV (Device component use); PRP (Properties); USES (Uses) (preparation of alkadiene compds. as after-image-preventing agents for liquid crystal displays)</p> | | | |
| RN | 175859-31-1 CAPLUS | | | |
| CN | <p>Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)</p> | | | |



L9 ANSWER 114 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

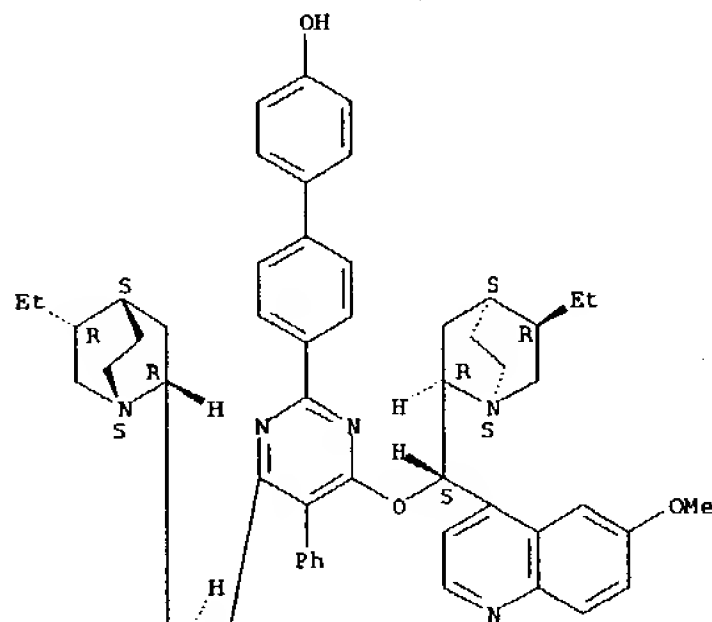
PAGE 2-A



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Absolute stereochemistry.

PAGE 1-A



9/811, 359

09/ 835,523

L9 ANSWER 115 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:768892 CAPLUS
DOCUMENT NUMBER: 128:95425
TITLE: Ferroelectric chiral smectic liquid crystal display
INVENTOR(S): Asao, Kyoji; Terada, masahiro; Moriyama, Takashi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JXXXXF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09304774 | A2 | 19971128 | JP 1996-137748 | 19960509 |

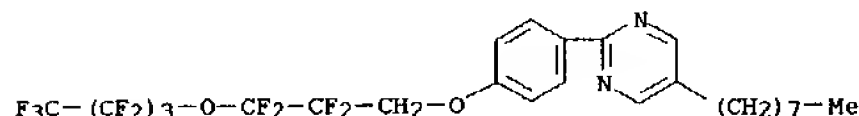
PRIORITY APPLN. INFO.: JP 1996-137748 19960509

AB The title liquid crystal display comprises a chiral smectic phase liquid crystal interposed between the pair of substrates, wherein at least one of the substrates has antiferroelec. liquid crystal composition layer. The chiral smectic phase liquid crystal has a fluorocarbon terminal group and a hydrocarbon terminal group, wherein both terminal groups are bonded to the backbone nuclei and the liquid crystal composition contains a F-based liquid crystal a smectic intermediate phase or a latent smectic intermediate phase. This liquid crystal display provided high reliability.

IT 152915-22-5
RL: DEV (Device component use); USES (Uses)
(ferroelec. chiral smectic liquid crystal display)

RN 152915-22-5 CAPLUS

CN Pyrimidine, 5-octyl-2-[4-[2,2,3,3-tetrafluoro-3-(nonafluorobutoxy)propoxy]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 117 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:754987 CAPLUS
DOCUMENT NUMBER: 128:95704
TITLE: Bistable switching and electroclinic effect of a low-pitch and large spontaneous polarization ferroelectric liquid crystal mixture
AUTHOR(S): Mukherjee, Arunima; Srivastava, S. L.; Beresnev, L. A.
CORPORATE SOURCE: Physics Department, Allahabad University, Allahabad, 211002, India
SOURCE: Ferroelectrics (1997), 200(1-4), 125-141
CODEN: FEROA8; ISSN: 0015-0193
PUBLISHER: Gordon & Breach Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Switching time (ts), spontaneous polarization (Ps), and torsional bulk viscosity (yt) in the SmC* phase of a low-pitch planar oriented ferroelec. liquid crystal mixture FLC # 252 of thickness 15 μm were measured at 25-52° by the polarization reversal method. Optical tilt angle (θ) in the SmC* phase and induced tilt angle (θind) in the SmA* phase produced by the electroclinic effect were determined. Ps was fitted on Ps = 27.32 (Tc - T)0.44 nC/cm2 below the Curie temperature Tc = 51.4°. Ps is screened by the space charge from 25-35°. Ts lies in the range of 36-2 ms and varies inversely with E above a critical field Ec. The ratio Ps/sin2θ (= 512 nC/cm2) and the critical field Ec (= 1.20 kV/cm) are almost temperature independent from 25-44°. yt obeys the Arrhenius relation from 25-44° with an activation energy of 0.36 eV. The flexoelec. coupling constant C and thermodyn. Landau parameter α are determined to be C = 0.33 + 108 V/(m rad) and α = 0.23 + 105 N/(m2 rad2 K).

IT 201011-76-9, FLC 252
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(FLC 252; bistable switching and electroclinic effect of low-pitch and large spontaneous polarization ferroelec. liquid crystal mixture)

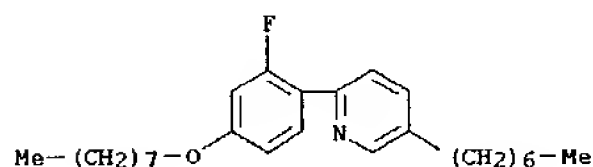
RN 201011-76-9 CAPLUS

CN [1,1':4',1''-terphenyl]-4,4''-dicarboxylic acid, bis(2-chlorohexyl) ester, mixt. with bis(1-methylheptyl) [1,1':4',1''-terphenyl]-4,4''-dicarboxylate, 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[2-fluoro-4-(octyloxy)phenyl]-5-heptylpyridine, 4-(hexyloxy)phenyl 4-(nonyloxy)phenyl carbonate, 4-(hexyloxy)phenyl 4-(octyloxy)phenyl carbonate, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 201011-75-8

CMF C26 H38 F N O



CM 2

CRN 201011-74-7

L9 ANSWER 116 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:762011 CAPLUS
DOCUMENT NUMBER: 128:95450
TITLE: Liquid crystal elements showing bookshelf-type alignment, their manufacture, and display devices therefrom
INVENTOR(S): Mori, Yoshimasa; Haniu, Yukio; Sato, Koichi; Shinjo, Kenji; Nakamura, Shinichi; Yamada, Shuji; Noguchi, Koji; Nakamura, Akitoshi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.
CODEN: JXXXXF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09304775 | A2 | 19971128 | JP 1996-137749 | 19960509 |

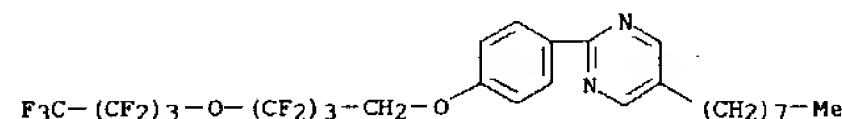
PRIORITY APPLN. INFO.: JP 1996-137749 19960509

AB Title elements, showing excellent alignment stability, high response, high contrast, etc., include liquid crystal compns., which show an isotropic (Iso)-smectic (Sm) phase transition with coexistence temperature width 0.1-3.5°, between pair of substrates comprising electrodes and alignment-controlling layers (preferably polyimides), resp. The compns. may contain liquid crystal compds. showing (latent) Sm intermediate phases and having fluorocarbon- and hydrocarbon terminal groups connected via core parts. A uniaxial orientation may be formed in ≥1 of the alignment-controlling layers. The elements are manufactured by injecting the compns. into the spaces between the pair of substrates and cooling the compns. from Iso phases at 0.1-4.0°/min. Title display devices involve above elements and driving devices therefor.

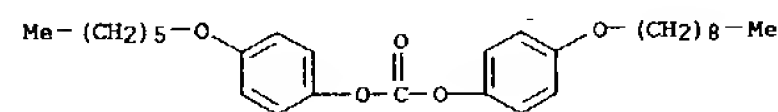
IT 152915-24-7
RL: DEV (Device component use); USES (Uses)
(ferroelec. liquid crystal compns. showing stable bookshelf-type alignment and good responsibility)

RN 152915-24-7 CAPLUS

CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)



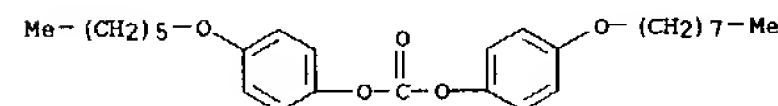
L9 ANSWER 117 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C28 H40 O5



CM 3

CRN 201011-73-6

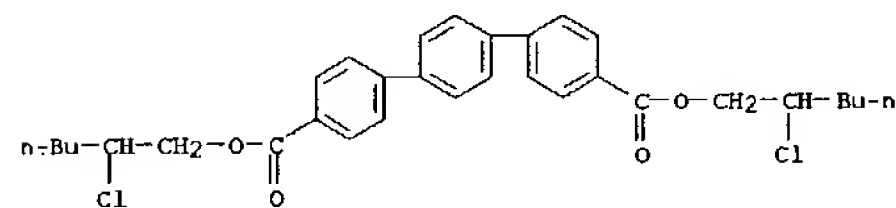
CMF C27 H38 O5



CM 4

CRN 134853-27-3

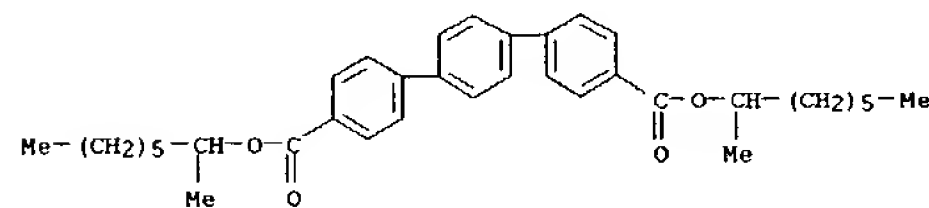
CMF C32 H36 Cl2 O4



CM 5

CRN 134853-13-7

CMF C36 H46 O4



CM 6

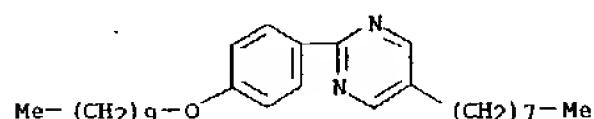
CRN 57202-52-5

CMF C28 H44 N2 O

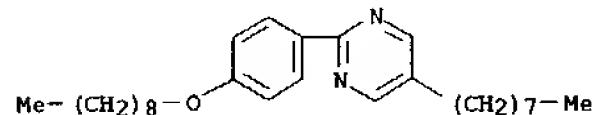
9/811,359

09/ 835,523

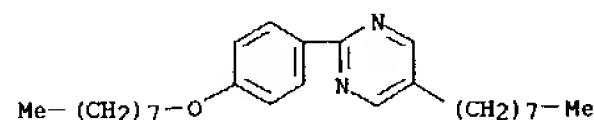
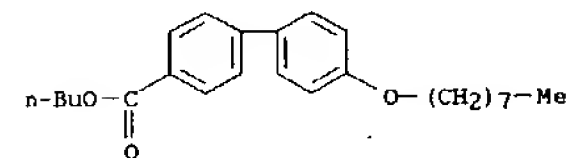
L9 ANSWER 117 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



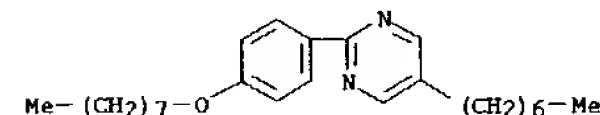
CM 7

CRN 57202-51-4
CMF C27 H42 N2 O

CM 8

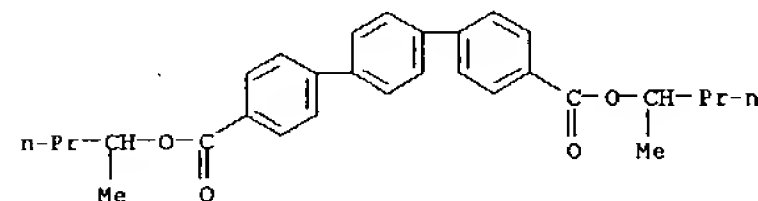
CRN 57202-50-3
CMF C26 H40 N2 OL9 ANSWER 118 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CRN 61966-09-4
CMF C25 H34 O3

CM 3

CRN 57202-39-8
CMF C25 H38 N2 O

L9 ANSWER 118 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 1997:754982 CAPLUS
 128:68824
 TITLE: Landau expansion coefficients related to second-order SmA-SmC* transition for ferroelectric liquid crystal mixtures composed from achiral matrix and chiral dopants. 3. Dependence on molecular structure of chiral dopants
 AUTHOR(S): Beresnev, L. A.; Blinov, L. M.; Grossmann, S.; Saxena, Kanchan; Haase, W.
 CORPORATE SOURCE: Institut Physikalische Chemie, Technische Hochschule Darmstadt, Darmstadt, D-64287, Germany
 SOURCE: Ferroelectrics (1997), 200(1-4), 51-63
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Landau expansion coeffs. were compared for the 2 mixts. composed from the same achiral smectic matrix and 2 different chiral impurities. Coeffs. were determined from temperature dependences of capacitance, tilt angle, and polarization. Mixts. have relatively small, but the same concentration of chiral dopants, and the basic difference between them is the different lengths of chiral mols. The Landau coeffs. α and b were found to be appreciably increased with an increase of chiral dopant mol. length. It is accounted for by an increase in orientational ordering P2 of the mixture with the longer dopant, which, in turn, results in an increase in the smectic wave amplitude $\Delta\phi$. The increase in P2 was confirmed by x-ray measurements of the interlayer distance in the smectic A and C phases of the 2 mixts.
 IT 200343-75-5, FLC 441
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (FLC 441; Landau expansion coeffs. for ferroelec. liquid crystal mixture depending on mol. structure of chiral dopants)
 RN 200343-75-5 CAPLUS
 CN [1,1':4',1''-Terphenyl]-4,4''-dicarboxylic acid, bis(1-methylbutyl) ester, mixt. with butyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

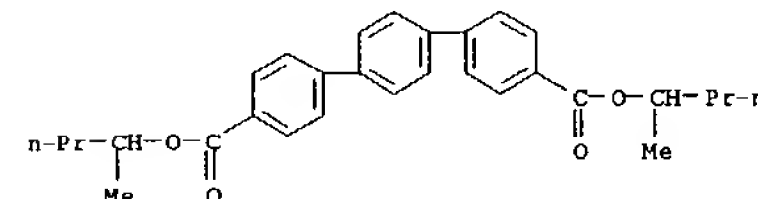
CM 1

CRN 134853-20-6
CMF C30 H34 O4

CM 2

L9 ANSWER 119 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 1997:754981 CAPLUS
 128:68823
 TITLE: Landau expansion coefficients related to second order SmA-SmC* transition for ferroelectric liquid crystal mixtures composed from achiral matrix and chiral dopants. 2. Influence of cell thickness on the apparent values of Landau coefficients in FLC mixtures
 AUTHOR(S): Saxena, Kanchan; Blinov, L. M.; Beresnev, L. A.; Haase, W.
 CORPORATE SOURCE: Institut Physikalische Chemie, Technische Hochschule Darmstadt, Darmstadt, D-64287, Germany
 SOURCE: Ferroelectrics (1997), 200(1-4), 37-49
 CODEN: FEROA8; ISSN: 0015-0193
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Temperature dependence of the tilt angle, polarization, and capacitance was studied in 3 different FLC mixts. and various cell thicknesses and the Landau expansion coeffs. α and b were determined. These parameters are considerably affected by the thickness of the samples and smaller values of apparent Landau expansion coeffs. were obtained in the case of thin samples. This effect was attributed to the surface forces action.
 IT 200343-75-5
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (FLC 441; cell thickness effect on Landau expansion coeffs. of ferroelec. liquid crystal mixts. containing chiral dopants.)
 RN 200343-75-5 CAPLUS
 CN [1,1':4',1''-Terphenyl]-4,4''-dicarboxylic acid, bis(1-methylbutyl) ester, mixt. with butyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 134853-20-6
CMF C30 H34 O4

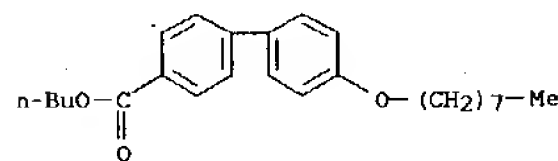
CM 2

CRN 61966-09-4
CMF C25 H34 O3

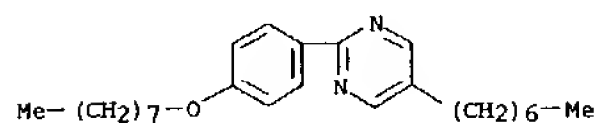
9/811, 359

09/ 835, 523

L9 ANSWER 119 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3

CRN 57202-39-8
CMF C25 H38 N2 OL9 ANSWER 120 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:754980 CAPLUS
DOCUMENT NUMBER: 128:68822TITLE: Landau expansion coefficients related to second order SmA-SmC* transition for ferroelectric liquid crystal mixtures composed from an achiral matrix and chiral dopants. 1. Decrease of Landau elastic coefficient α for small concentration of a chiral dopant
AUTHOR(S): Saxena, Kanchan; Beresnev, L. A.; Blinov, L. M.; Haase, W.

CORPORATE SOURCE: Institut Physikalische Chemie, Technische Hochschule Darmstadt, Darmstadt, D-64287, Germany

SOURCE: Ferroelectrics (1997), 200(1-4), 21-35
CODEN: FEROA8; ISSN: 0015-0193PUBLISHER: Gordon & Breach Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: EnglishAB A new 3-component ferroelec. liquid crystal mixture FLC-441 showing the 2nd-order phase transition and large electroclinic response with microsecond switching times were studied with an aim to determine the Landau expansion coeffs. Capacitance, tilt angle, and polarization measurements were performed in the smectic A and smectic C* phases to obtain these coeffs. Unexpectedly, very small values of 1st Landau coefficient (α) was obtained not previously reported in literature for any other substance. A new mol. approach to design the mixts. was attributed to the small value of 1st Landau coefficient obtained.

IT 200343-75-5

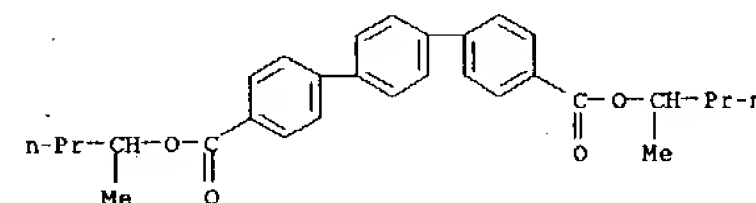
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(FLC 441: Landau expansion coeffs. of ferroelec. liquid crystal mixture containing chiral dopants from electrooptical, pyroelec., and ferroelec. measurements)

RN 200343-75-5 CAPLUS

CN [1,1':4',1''-Terphenyl]-4,4''-dicarboxylic acid, bis(1-methylbutyl) ester, mixt. with butyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

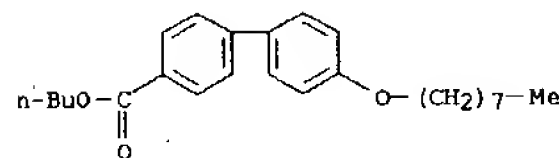
CM 1

CRN 134853-20-6
CMF C30 H34 O4

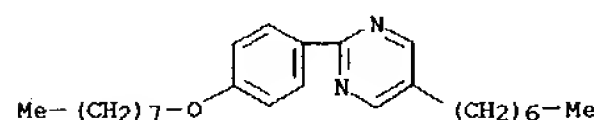
CM 2

CRN 61966-09-4
CMF C25 H34 O3

L9 ANSWER 120 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3

CRN 57202-39-8
CMF C25 H38 N2 O

L9 ANSWER 121 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:751986 CAPLUS
DOCUMENT NUMBER: 128:75356

TITLE: Pyrimidine synthesis - a new method

AUTHOR(S): Somech, Iris; Shvo, Youval

CORPORATE SOURCE: School of Chemistry, Faculty of Exact Sciences, Raymond and Beverly Sackler, Tel Aviv University, Tel Aviv-Jaffa, 69978, Israel

SOURCE: Journal of Heterocyclic Chemistry (1997), 34(5), 1639-1641
CODEN: JHTCAD; ISSN: 0022-152X

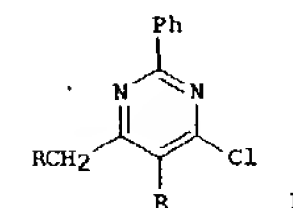
PUBLISHER: HeteroCorporation

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 128:75356

GI



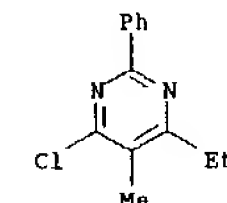
AB 2-Phenylpyrimidines I [R = H, Me, pentyl, Ph] were prepared by treating PhCCl3 with RCH2CN in the presence of AlCl3.

IT 184109-81-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of phenylpyrimidines)

RN 184109-81-7 CAPLUS

CN Pyrimidine, 4-chloro-6-ethyl-5-methyl-2-phenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

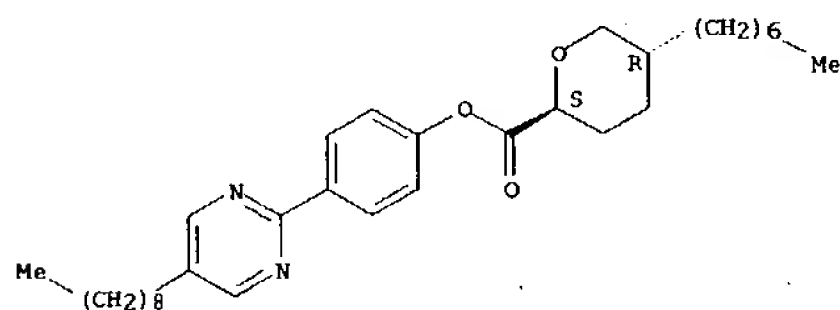
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THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

09/811, 359

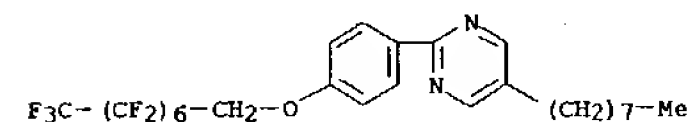
L9 ANSWER 122 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:751884 CAPLUS
 DOCUMENT NUMBER: 128:95265
 TITLE: Novel dopants for ferroelectric mixtures incorporating chiral dioxane or tetrahydropyran rings
 AUTHOR(S): Buchecker, Richard; Fuenfschilling, Juerg; Marck, Guy
 CORPORATE SOURCE: Rolic Ltd., Basel, CH-4002, Switz.
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1997), 302, 1283-1289
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis, mesomorphic properties and application (as dopants in ferroelec. mixts.) are presented for chiral dioxane and tetrahydropyran derivs. The dioxanes induce a sufficiently high spontaneous polarization and a very small pitch if added to achiral Sc-mixts.
 IT 200933-82-0P
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (chiral dioxane- and tetrahydropyran dopants for ferroelec. liquid crystal mixts.)
 RN 200933-82-0 CAPLUS
 CN 2H-Pyran-2-carboxylic acid, 5-heptyltetrahydro-, 4-(5-nonyl-2-pyrimidinyl)phenyl ester, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



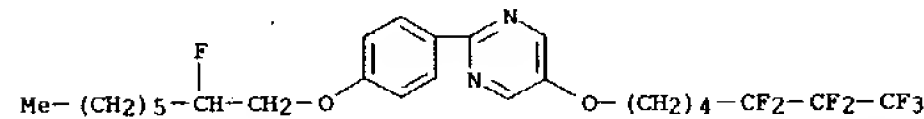
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 124 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:751871 CAPLUS
 DOCUMENT NUMBER: 128:66833
 TITLE: Surface tension obtained from various smectic-A liquid-crystal free-standing films
 AUTHOR(S): Mach, P.; Grantz, S.; Stoebe, T.; Huang, C. C.
 CORPORATE SOURCE: School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, 55455, USA
 SOURCE: Molecular Crystals and Liquid Crystals: Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1997), 302, 1169-1174
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Employing a straightforward exptl. technique, the authors have studied the surface tension of various liquid crystal compds. in the smectic-A and smectic-Ad phases. The results clearly demonstrate the significant role of mol. packing in determining the surface tension.
 IT 152915-43-0
 RL: PRP (Properties)
 (surface tension for various smectic-A liquid-crystal free-standing films in relation to mol. packing)
 RN 152915-43-0 CAPLUS
 CN Pyrimidine, 5-octyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

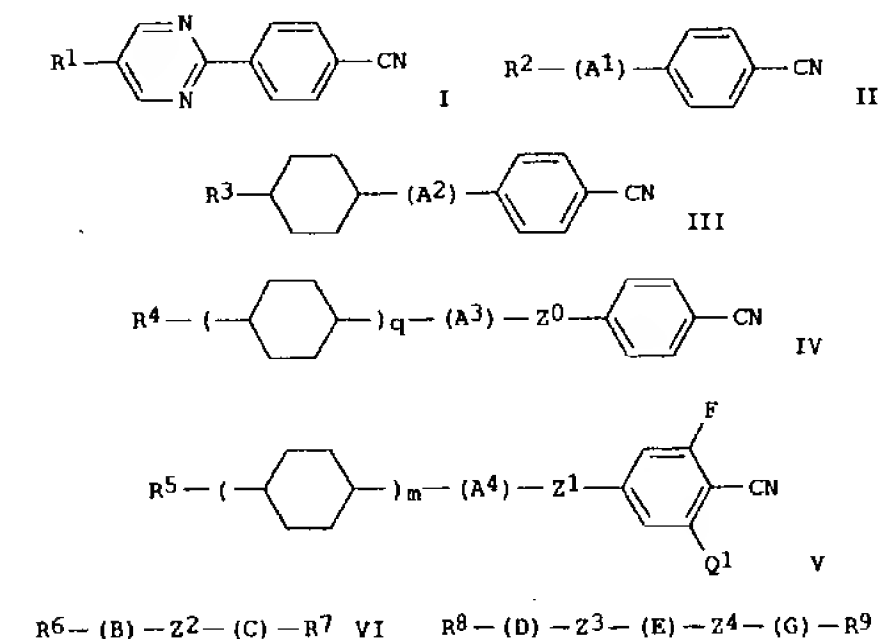
L9 ANSWER 123 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:751879 CAPLUS
 DOCUMENT NUMBER: 128:82469
 TITLE: Synthesis of semi-perfluorinated FLCs and the effect of fluorination extent on mesomorphic properties
 AUTHOR(S): Liu, Hong; Nohira, Hiroyuki
 CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Saitama University, Urawa City, 338, Japan
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1997), 302, 1235-1240
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Semi-perfluorinated ferroelec. liquid crystals, 5-(n-perfluoroalkyl)alkoxy-2-[p-(2-fluorooctyloxy)phenyl]pyrimidines, were synthesized and their mesomorphic properties studied. Compared with nonfluorinated analog, chiral smectic C phase is strongly enhanced. All of the compds. showed chiral smectic C phase enantiotropically. As fluorination extent of the achiral tail increased, tilt angle, spontaneous polarization and response time increased. Especially, when the length of the achiral tail is seven and fluorination extent is 60%, chiral smectic C phase is so stable that smectic A phase completely disappeared. Its spontaneous polarization is >300nC·cm⁻². All the compds. showed little temperature dependence of response time.
 IT 200482-19-5P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and ferroelec. and liquid crystal properties of)
 RN 200482-19-5 CAPLUS
 CN Pyrimidine, 2-[4-[(2-fluorooctyl)oxy]phenyl]-5-[(5,5,6,6,7,7,7-heptafluoroheptyl)oxy]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 125 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:746118 CAPLUS
 DOCUMENT NUMBER: 128:55471
 TITLE: Liquid crystal composition and liquid crystal display
 INVENTOR(S): Sekiguchi, Yakusa; Murashiro, Katsuyuki; Takeshita, Fusayuki; Matsushita, Tetsuya; Nakagawa, Etsuo
 PATENT ASSIGNEE(S): Chisso Corporation, Japan
 SOURCE: PCT Int. Appl., 36 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|----------|
| WO 9742273 | A1 | 19971113 | WO 1997-JP1430 | 19970424 |
| W: | AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | |
| JP 09302343 | A2 | 19971125 | JP 1996-139441 | 19960508 |
| US 5837161 | A | 19981117 | US 1997-822688 | 19970324 |
| AU 9724062 | A1 | 19971126 | AU 1997-24062 | 19970424 |
| PRIORITY APPLN. INFO.: | | | JP 1996-139441 | 19960508 |
| | | | WO 1997-JP1430 | 19970424 |
| OTHER SOURCE(S): | | | MARPAT 128:55471 | |
| GI | | | | |



AB A liquid crystal composition comprises a 1st component I, a 2nd component

9/811, 359

09/835,523

L9 ANSWER 125 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 selected from II, III, IV, and V, a 3rd component selected from VI and VII, and a chiral component. In the above formulas, R1 to R9 represent alkyl; Z0 to Z4 represent -CH2CH2-; Z5 and Z6 represent -COO- or a single bond; A1 to A4, B, C, E and G represent 1,4-cyclohexylene or 1,4-phenylene; D represents 1,4-cyclohexylene or 1,3-pyrimidine-2,5-diyl; Q1 represents H or F; and g and m are each 0 or 1. The chiral component is in an amt. required for maintaining the ratio of d/P [d is a cell thickness (μm) and P is a twist pitch length (μm)] within the range of 0.4 to 0.6. The compn. has a small τ value with a small value of γ(V90/V10) so as to meet a high-speed response while satisfying various characteristics required of STN display systems.

IT 199943-73-2

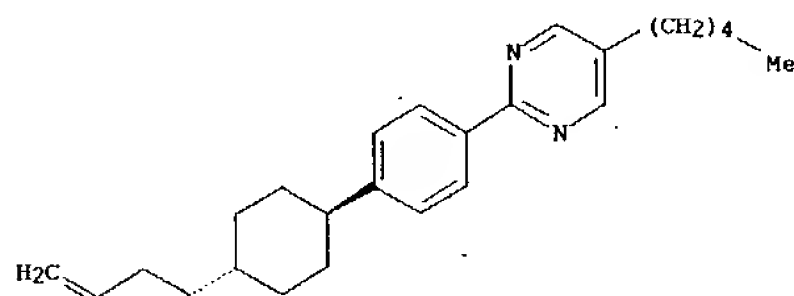
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(liquid crystal compn for super twisted mode display devices)

RN 199943-73-2 CAPLUS

CN Pyrimidine, 2-[4-[4-(3-butenyl)cyclohexyl]phenyl]-5-pentyl-, trans- (9CI)
 (CA INDEX NAME)

Relative stereochemistry.



L9 ANSWER 126 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:734820 CAPLUS
 DOCUMENT NUMBER: 128:8943
 TITLE: [1,2,5]-Thiadiazole derivatives and liquid-crystal mixtures and display devices using them

INVENTOR(S): Fuss, Robert; Manero, Javier; Hornung, Barbara
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 18 pp.
 CODEN: GWXXBX

DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| DE 19712351 | A1 | 19971030 | DE 1997-19712351 | 19970325 |
| JP 10067763 | A2 | 19980310 | JP 1997-90869 | 19970409 |
| PRIORITY APPLN. INFO.: | | | DE 1996-19613964 | 19960409 |

OTHER SOURCE(S): MARPAT 128:8943

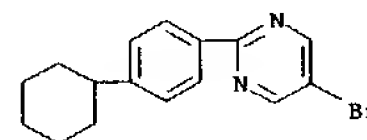
AB Derivs. of [1,2,5]-thiadiazole having mesogenic residues in the 3- and 4-positions are suitable as components of liquid-crystal mixts., especially ferroelec. liquid-crystal mixts. 3-Halogen-substituted [1,2,5]-thiadiazole derivs. having a mesogenic residue in the 4-position are useful intermediates in the preparation of the above compds.

IT 170573-25-8

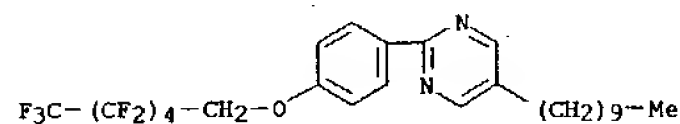
RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of; in preparation of thiadiazole derivs. for liquid-crystal mixts. and displays)

RN 170573-25-8 CAPLUS

CN Pyrimidine, 5-bromo-2-(4-cyclohexylphenyl)- (9CI) (CA INDEX NAME)

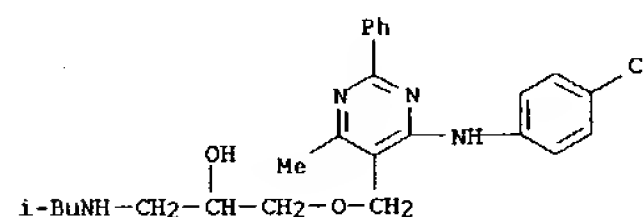


L9 ANSWER 127 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:720570 CAPLUS
 DOCUMENT NUMBER: 128:39878
 TITLE: Surface Tension of Liquid Crystals Containing Two Perfluoroalkyl Tails
 AUTHOR(S): Mach, P.; Huang, C. C.; Nguyen, H. T.
 CORPORATE SOURCE: School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, 55455, USA
 SOURCE: Langmuir (1997), 13(24), 6357-6359
 CODEN: LANGD5; ISSN: 0743-7463
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB High-resolution surface tension measurements have been conducted on free-standing films of selected liquid-crystal compds. containing different combinations of flexible tails. The tail combinations studied were two hydroalkyl tails, one hydroalkyl tail and one fluoroalkyl tail, and two fluoroalkyl tails, resp. Comparisons of the results with existing data obtained from other measurement techniques are made.
 IT 159680-03-2, H(10)F(5)MOPP
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (surface tension of liquid crystals containing two perfluoroalkyl tails)
 RN 159680-03-2 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,6-undecafluorohexyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 128 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:687557 CAPLUS
 DOCUMENT NUMBER: 128:13239
 TITLE: Synthesis and biological investigations of pyrimidine derivatives
 AUTHOR(S): Cieplik, Jerzy; Pluta, Janusz; Meler, Grazyna
 CORPORATE SOURCE: Department Organic Chemistry, Medical Academy Wroclaw, Wroclaw, 50137, Pol.
 SOURCE: Archiv der Pharmazie (Weinheim, Germany) (1997), 330(8), 237-241
 CODEN: ARPMAS; ISSN: 0365-6233
 PUBLISHER: Wiley-VCH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Various 5-alkoxymethyl and 5-[(aminoalkoxy)methyl] derivs. of pyrimidine were prepared. When tested for antibacterial activity, some of the compds. exhibited promising effects.
 IT 186804-44-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and antibacterial activity of pyrimidines)
 RN 186804-44-4 CAPLUS
 CN 2-Propanol, 1-[[4-[(4-chlorophenyl)amino]-6-methyl-2-phenyl-5-pyrimidinyl)methoxy]-3-[(2-methylpropyl)amino]- (9CI) (CA INDEX NAME)

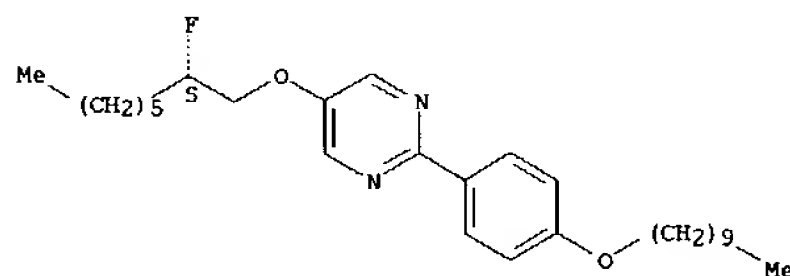


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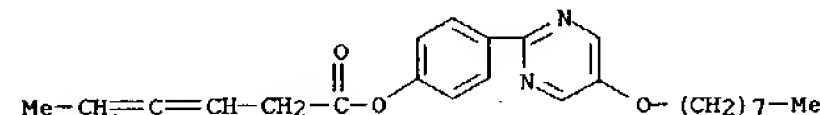
09/835,523

L9 ANSWER 129 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:630517 CAPLUS
 DOCUMENT NUMBER: 127:339167
 TITLE: The synthesis and mesomorphic properties of ferroelectric liquid crystals with a fluorinated asymmetric frame
 AUTHOR(S): Nagashima, Yutaka; Ichihashi, Tetsuya; Noguchi, Koji; Iwamoto, Masayuki; Aoki, Yoshio; Nohira, Hiroyuki
 CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Saitama University, Urawa, 338, Japan
 SOURCE: Liquid Crystals (1997), 23(4), 537-546
 CODEN: LICRE6; ISSN: 0267-8292
 PUBLISHER: Taylor & Francis
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A novel series of ferroelec. liquid crystals with a fluorinated asym. frame were synthesized by utilizing optically active (S)-2-, (S)-3-, (S)-4- and (S)-5-fluoroalkanol prepared from corresponding (R)-1,2-epoxyalkanes. Their mesomorphic and phys. properties, such as spontaneous polarization, optic tilt angle and response time, were investigated systematically in a series of homologous compds. having the chiral center at different positions on tails of various lengths. All the compds. exhibited the chiral smectic C phase in a wide range of temps. and were found to possess a fast response time in spite of the small magnitude of the spontaneous polarization.
 IT 197852-19-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis and mesomorphic properties of ferroelec. liquid crystals with fluorinated asym. frame for display applications)
 RN 197852-19-0 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-[(2-fluorooctyl)oxy]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 130 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:625242 CAPLUS
 DOCUMENT NUMBER: 127:324710
 TITLE: Axial chiral allenylacetates as novel ferroelectric liquid crystals
 AUTHOR(S): Lunkwitz, Ralph; Tschierske, Carsten; Langhoff, Arne; Giesselmann, Frank; Zugenmaier, Peter
 CORPORATE SOURCE: Institute of Organic Chemistry, Martin-Luther-University Halle, Halle, D-06120, Germany
 SOURCE: Journal of Materials Chemistry (1997), 7(9), 1713-1721
 CODEN: JMACEP; ISSN: 0959-9428
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Liquid crystalline alkane-3,4-dienoates (allenylacetates) were synthesized. Most compds. incorporate a heterocyclic 1,3,4-thiadiazole ring or a pyrimidine ring as a constituent of the rigid core. These axial chiral allene derivs. were at 1st obtained as racemic mixts. Some of them were also synthesized in enantiomerically enriched form by enantioselective synthesis. The compds. were studied by polarizing microscopy and by DSC. The three-ring compds. exhibit broad regions of smectic C-phases. The optically active three-ring compds. show broad Sc*-phases with moderate values of spontaneous polarization.
 IT 197579-44-5P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation and liquid crystal properties of)
 RN 197579-44-5 CAPLUS
 CN 3,4-Hexadienoic acid, 4-[5-(octyloxy)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

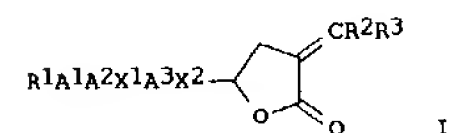


REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

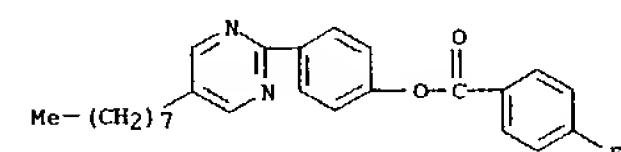
L9 ANSWER 131 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:618734 CAPLUS
 DOCUMENT NUMBER: 127:313203
 TITLE: Optically-active γ -butyrolactone derivatives, liquid-crystal compositions containing them, and liquid-crystal device
 INVENTOR(S): Nakamura, Shinichi; Takiguchi, Takao; Iwaki, Takashi; Tokano, Takeshi; Kosaka, Yoko
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 09241249 | A2 | 19970916 | JP 1996-73078 | 19960305 |
| PRIORITY APPLN. INFO.: | | | JP 1996-73078 | 19960305 |

GI



AB The title derivs. I [R1-3 = H, F, cyano, C1-30 linear or branched alkyl, cycloalkyl, where CH2 may be replaced with O, S, CO, CH(CN), CH(CF)3, CHF, CH:CH, C.tplbond.C; heteroatoms are not adjacent to each other; A3 = 1,4-C6H4, 1,4-cyclohexylene, heterocyclyl, e.g. pyridine-2,5-diyl, thiazole-2,5-diyl, benzoxazole-2,6-diyl, 2,6-naphthylene, etc., which may be substituted with 1-2 F, Cl, Br, Me, CF3, cyano; A2-3 = direct bond, A3: X1 = direct bond, CO2, OCO, CH2O, OCH2, CH2CH2, CH:CH, C.tplbond.C; X2 = direct bond, OCH2, (CH2)z, Z = 2-10], liquid-crystal compns., especially chiral smectic compns., containing ≥ 1 I, and a liquid-crystal using the compns. are claimed. I imparts large spontaneous polarization to liquid-crystal compns., and the compns. provide ferroelec. liquid-crystal device with good switching property, high contrast, and low temperature-dependence of response speed.
 IT 162084-03-9D, mixts. containing
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (preparation of optically-active γ -butyrolactone derivs. for ferroelec. chiral smectic liquid crystal displays)
 RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



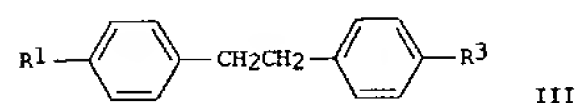
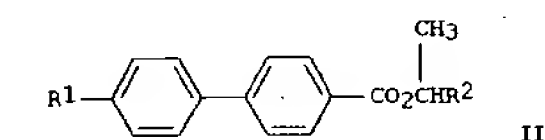
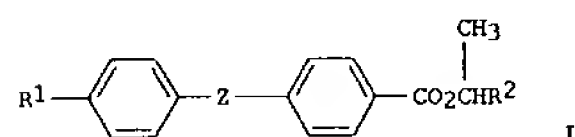
L9 ANSWER 131 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

9/811, 359

09/835,523

L9 ANSWER 132 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:617089 CAPLUS
 DOCUMENT NUMBER: 127:241285
 TITLE: An antiferroelectric liquid crystal composition containing optically active alkyl benzoates
 INVENTOR(S): Shindo, Hitoshi; Takigawa, Kenji; Hayashi, Hitoshi; Takahashi, Katsuaki; Okuda, Yoshiaki; Suenaga, Hitoshi; Tabayashi, Kazuaki
 PATENT ASSIGNEE(S): Nippon Soken, Inc., Japan; Taikoku Hormone Mfg. Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------|------|----------|-----------------|----------|
| JP 09235550 | A2 | 19970909 | JP 1996-128728 | 19960523 |
| PRIORITY APPLN. INFO.: JP 1995-185648 19950721 | | | | |
| JP 1995-343756 19951228 | | | | |
| OTHER SOURCE(S): MARPAT 127:241285 | | | | |
| GI | | | | |



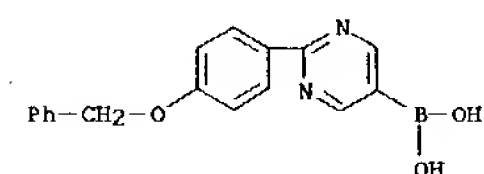
AB An antiferroelec. liquid crystal composition contains at least one compound represented by formula of alkyl benzoates (I; Z = CO2, single bond, OCH2, CH2CH2, or C.tplbond.C; R1 = C4-20 alkyl; R2 = C2-16 hydrocarbyl optionally containing an ether, CO, or O), alkyl pyrimidinecarboxylates (II; R1, R2 = same as above), and 1,2-diphenylethanes (III; R1 = same as above; R3 = C5-19 linear or branched alkyl, wherein the branched alkyl may make the compound optically active). This liquid crystal composition exhibits a chiral smectic CA phase, low threshold voltage, low driving voltage, and high speed response and is suitable for a liquid crystal display element. Thus, 0.98 g 4-n-decylbenzoic acid was condensed with 0.88 g (R)-1-methylhexyl

L9 ANSWER 133 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:600332 CAPLUS
 DOCUMENT NUMBER: 127:262525
 TITLE: Process for the preparation of ketoxime ethers by coupling acyl halide oxime ethers with boronic acid derivatives
 INVENTOR(S): Kuhn, Birgit
 PATENT ASSIGNEE(S): Hoechst Schering AgrEvo GmbH, Germany
 SOURCE: Eur. Pat. Appl., 29 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------|------|----------|------------------|----------|
| EP 792870 | A1 | 19970903 | EP 1997-102048 | 19970210 |
| R: CH, DE, FR, GB, IT, LI, NL | | | | |
| DE 19607960 | A1 | 19970904 | DE 1996-19607960 | 19960301 |
| JP 10001464 | A2 | 19980106 | JP 1997-45867 | 19970228 |
| PRIORITY APPLN. INFO.: DE 1996-19607960 19960301 | | | | |
| OTHER SOURCE(S): CASREACT 127:262525; MARPAT 127:262525 | | | | |

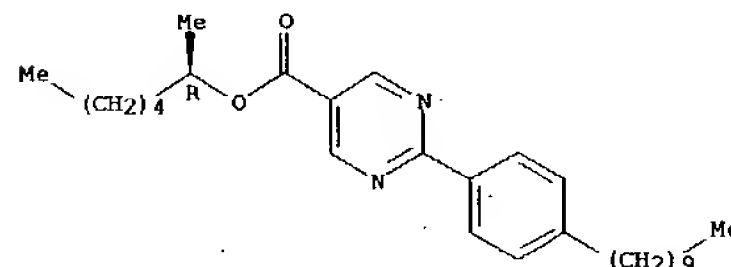
AB Ketoxime ethers R1[C:NO(CH2)nR2]A [A = (un)substituted 5- or 6-member aryl, heteroaryl; R1 = (un)substituted alkyl, cycloalkyl, alkenyl, alkynyl; R2 = A, R1; n = 1-10] are prepared in high yield and selectivity by the coupling of boronic acid derivs. AB(OH)2 with acyl halide oxime ethers R1[C:NO(CH2)nR2]X (X = halogen) in the presence of a Pd(0) or Pd(II) compound catalyst and a base. Thus, 1-chloro-2,2,2-trifluoroethanone-O-benzyl oxime was reacted with PhB(OH)2 in the presence of (Ph3P)4Pd and NaHCO3, producing Ph(C:NOCH2Ph)CF3 in 70% yield.

IT 196083-19-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (process for the preparation of ketoxime ethers by coupling acyl halide oxime ethers with boronic acid derivs.)
 RN 196083-19-9 CAPLUS
 CN Boronic acid, [2-[4-(phenylmethoxy)phenyl]-5-pyrimidinyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 132 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 4-hydroxybenzoic acid using DCC in the presence of 4-dimethylaminopyridine in CH2Cl2 to give 1.20 g (R)-I (R1 = C10H21, Z = CO2, R2 = C5H11) (IV).
 Addn. of IV at 20 wt.% to an antiferroelec. liq. crystal compn. contg. four 1,1,1-trifluorooctyl 4-(biphenylcarbonyloxy)benzoates lowered threshold voltage from 22.0 V/μm to 12.6 V/μm, wherein the threshold voltage was the threshold voltage of elec. field required to induce the transition from SmCA* phase to SmCA phase.
 IT 195305-23-8P
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (antiferroelec. liquid crystal composition containing optically active alkyl benzoates)
 RN 195305-23-8 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 2-(4-decylphenyl)-, 1-methylhexyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

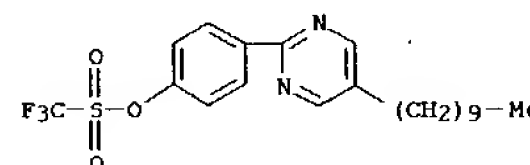


L9 ANSWER 134 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:590496 CAPLUS
 DOCUMENT NUMBER: 127:247916
 TITLE: Formylation of triflates by carbon monoxide and hydrosilanes
 INVENTOR(S): Kotsuki, Hikizo; Suenaga, Hitoshi; Datta, Peobal kanti
 PATENT ASSIGNEE(S): Taikoku Hormone Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------|------|----------|-----------------|----------|
| JP 09227439 | A2 | 19970902 | JP 1996-75107 | 19960222 |
| PRIORITY APPLN. INFO.: JP 1996-75107 19960222 | | | | |
| OTHER SOURCE(S): CASREACT 127:247916 | | | | |

AB Triflates are formylated using CO as a C source and hydrosilanes as proton sources in the presence of catalysts. 4-Me3CC6H4O3SCF3 was treated with CO in DMF in the presence of Pd(OAc)2 and 1,3-bis(diphenylphosphino)propane at 70° for 20 min and treated with trioctylsilane and NEt3 at 70° to give 89% 4-Me3CC6H4CHO.

IT 173346-92-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (formylation of triflates by CO and hydrosilanes)
 RN 173346-92-4 CAPLUS
 CN Methanesulfonic acid, trifluoro-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



9/811, 359

09/835,523

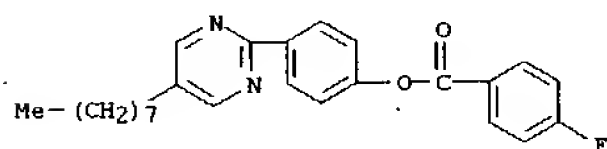
L9 ANSWER 135 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:571256 CAPLUS
 DOCUMENT NUMBER: 127:286023
 TITLE: Optically-active fluoroalkyl compounds, liquid-crystal compositions containing them, and the devices, display method, and displays using the compositions
 INVENTOR(S): Nohira, Hiroyuki; Sasada, Yasuyuki; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 09221441 | A2 | 19970826 | JP 1996-50733 | 19960215 |
| PRIORITY APPLN. INFO.: | | JP 1996-50733 19960215 | | |

AB Optically-active R1CHF(CH2)nX1A1B (I; R1 = C1-20 alkyl which may have O or CH:CH inserted therein; A1 = A2X2A3, A2X2A3X3A4; A2, A3, A4 = 1,4-C6H4, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl, 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl, 1,3-dithiane-2,5-diyl, thiophene-2,5-diyl, thiazole-2,5-diyl, thiadiazole-2,5-diyl, quinoline-2,6-diyl, 2,6-naphthylene, which may be substituted with 1-2 F or cyano; X1 = direct bond, O, CO2, OCO; X2-3 = direct bond, CO2, OCO, CH2O, OCH2, CH2CH2, CH:CH, C.tplbond.C; n = 0-10; B = halo, cyano, CF3) are claimed. Also claimed are liquid-crystal comps. containing ≥ 1 I, preferably showing chiral smectic or chiral nematic phase, and liquid-crystal devices, display methods, and displays using the comps. The liquid-crystal comps. provide ferroelec. liquid-crystal displays showing good switching characteristics, high-speed response, low temperature dependence of response, and high contrast.

IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (preparation of optically-active fluoroalkyl compds. for ferroelec. chiral smectic liquid-crystal displays)

RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI). (CA INDEX NAME)



L9 ANSWER 136 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:557701 CAPLUS
 DOCUMENT NUMBER: 127:255438
 TITLE: Liquid crystal displays with low driving voltage and high contrast and their manufacture
 INVENTOR(S): Kobayashi, Hidekazu; Yamada, Shuhei
 PATENT ASSIGNEE(S): Seiko Epson Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 09211409 | A2 | 19970815 | JP 1996-16908 | 19960201 |
| PRIORITY APPLN. INFO.: | | JP 1996-16908 19960201 | | |
| OTHER SOURCE(S): | | MARPAT 127:255438 | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

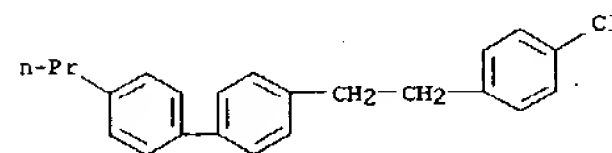
AB The displays include liquid crystal layers where polymers prepared from H2C:CMecO2-p-C6H4Q1-p-C6H4-OCOCMe:CH2 (I; Q1 = o-methyl- or -chloro-p-phenylene), RQ2CH2CH2-p-C6H4C1 (II; Q2 = p-biphenylene; R = alkyl), III, and IV are orientation dispersed. The liquid crystal layers may contain V and VI. The displays are manufactured by sealing I-IV between pair of substrates followed by polymerizing I thermally or optically.

IT 195734-68-0
 RL: DEV (Device component use); USES (Uses)
 (manufacture of liquid crystal displays with low driving voltage and high contrast)

RN 195734-68-0 CAPLUS
 CN Benzoic acid, 4-(trans-4-pentylcyclohexyl)-, (1R)-1-phenyl-1,2-ethanediyl ester, mixt. with 4-[5-(4-butylphenyl)-2-pyrimidinyl]benzonitrile, 4-[2-(4-chlorophenyl)ethyl]-4'-ethyl-1,1'-biphenyl, 4-[2-(4-chlorophenyl)ethyl]-4'-pentyl-1,1'-biphenyl, 4-[2-(4-chlorophenyl)ethyl]-4'-propyl-1,1'-biphenyl and 4-[5-(4-pentylphenyl)-2-pyrimidinyl]benzonitrile (9CI). (CA INDEX NAME)

CM 1

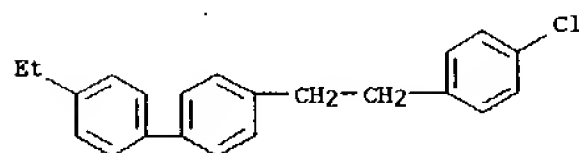
CRN 195734-66-8
 CMF C23 H23 C1



L9 ANSWER 136 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 2

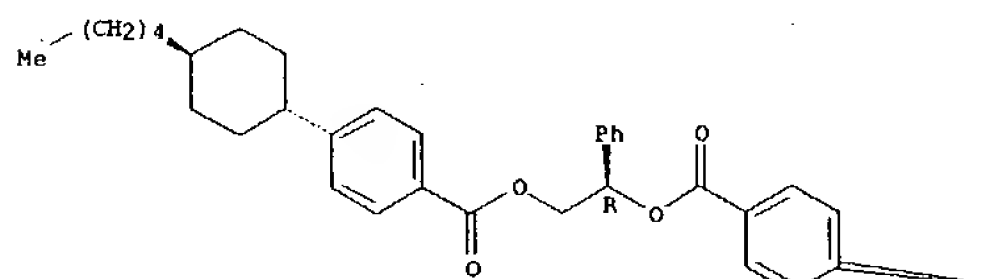
CRN 195734-64-6
 CMF C22 H21 C1



CM 3

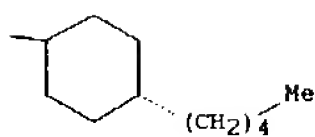
CRN 154102-21-3
 CMF C44 H58 O4

Absolute stereochemistry.



PAGE 1-A

PAGE 1-B

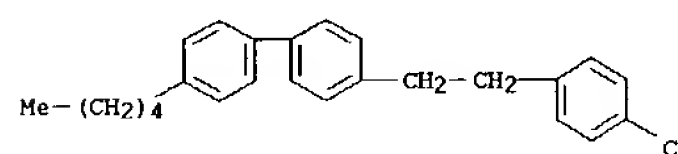


CM 4

CRN 131739-18-9

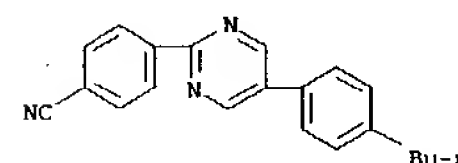
L9 ANSWER 136 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CMF C25 H27 C1



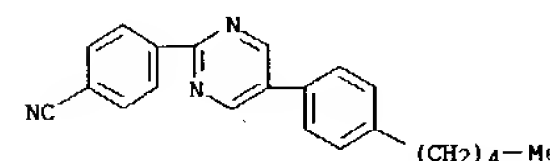
CM 5

CRN 63617-61-8
 CMF C21 H19 N3



CM 6

CRN 63617-56-1
 CMF C22 H21 N3



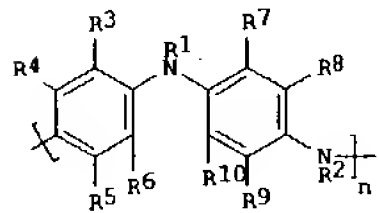
9/811,359

09/ 835,523

L9 ANSWER 137 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:532265 CAPLUS
 DOCUMENT NUMBER: 127:154763
 TITLE: Liquid crystal displays including chiral smectic liquid crystals and unidirectionally oriented polyaniline films
 INVENTOR(S): Nakazawa, Ikuo; Hanyu, Yukio; Asao, Yasushi; Ito, Yasuhiro; Asaoka, Masanobu; Takeda, Yasuaki; Moriyama, Takashi
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09160045 | A2 | 19970620 | JP 1995-346303 | 19951213 |

PRIORITY APPLN. INFO.: JP 1995-346303 19951213
 OTHER SOURCE(S): MARPAT 127:154763
 GI



AB The title displays, showing defect-free orientation and sharp threshold-voltage characteristics, include pair of electrodes sandwiching chiral smectic liquid crystals via films of polyaniline derivative having repeating unit I (R1-10 = H, Cl-6 alkyl (oxy); R1 and/or R2 is alkyl (oxy) when all substituents of R3-10 are H). The polyaniline derivative films may be rubbed and work as unidirectionally oriented alignment films. The liquid crystals may include compds. having 2 end chains of fluorocarbons and hydrocarbons bonded via center cores (of phenylpyrimidines).

IT 152915-24-7
 RL: DEV (Device component use); USES (Uses)
 (F-containing chiral smectic LCDs including unidirectionally oriented polyaniline films with good resistance stability)
 RN 152915-24-7 CAPLUS
 CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)

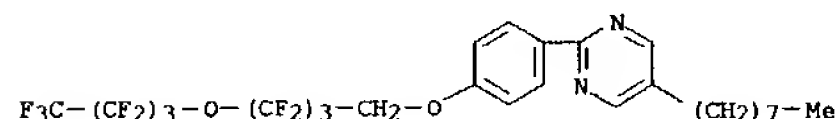
L9 ANSWER 138 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:532264 CAPLUS
 DOCUMENT NUMBER: 127:128792
 TITLE: Liquid crystal displays including chiral smectic liquid crystals and Langmuir-Blodgett films
 INVENTOR(S): Hanyu, Yukio; Takeda, Yasuaki; Moriyama, Takashi; Ito, Yasuhiro; Nakazawa, Ikuo; Asaoka, Masanobu; Asao, Yasushi
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09160044 | A2 | 19970620 | JP 1995-346311 | 19951213 |

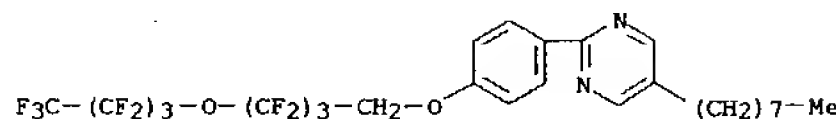
PRIORITY APPLN. INFO.: JP 1995-346311 19951213
 OTHER SOURCE(S): MARPAT 127:128792

AB The displays, showing good switching property, include pair of electrodes sandwiching chiral smectic liquid crystals via oriented elec.-conductive base films and 55-μm-thickness alignment films preferably of Langmuir-Blodgett (LB) films. The liquid crystals may include compds. having 2 end chains of fluorocarbons and hydrocarbons bonded via center cores (preferably of phenylpyrimidine).

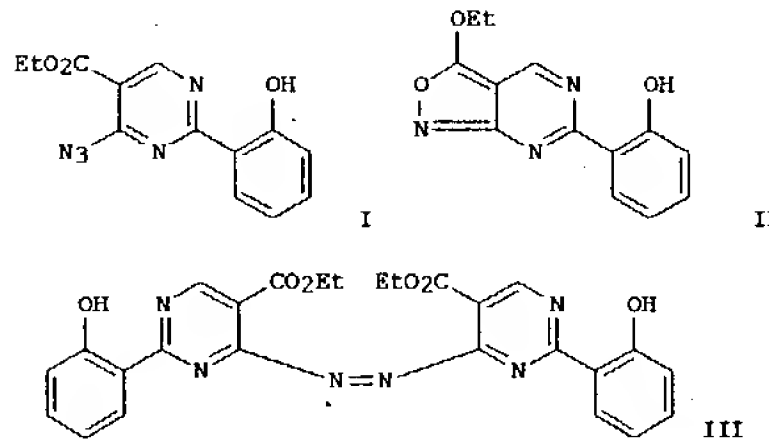
IT 152915-24-7
 RL: DEV (Device component use); USES (Uses)
 (F-containing chiral smectic LCDs including Langmuir-Blodgett alignment films with excellent switching property)
 RN 152915-24-7 CAPLUS
 CN Pyrimidine, 2-[4-[2,2,3,3,4,4-hexafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)



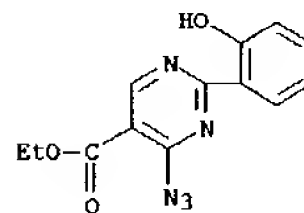
L9 ANSWER 137 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 139 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:525263 CAPLUS
 DOCUMENT NUMBER: 127:205543
 TITLE: Formation of 3-ethoxy-6-(2-hydroxyphenyl)isoxazolo[3,4-d]pyrimidine in the photolysis of 4-azido-5-(ethoxycarbonyl)-2-(2-hydroxyphenyl)pyrimidine
 AUTHOR(S): Vetchinov, V. P.; Nikolaenkova, E. B.; Mamatyuk, V. I.; Krivopalov, V. P.
 CORPORATE SOURCE: Novosibirsk Institute of Organic Chemistry, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, 630090, Russia
 SOURCE: Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (1997), 46(3), 607-608
 CODEN: RCBUEY; ISSN: 1066-5285
 PUBLISHER: Consultants Bureau
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 127:205543
 GI



AB Photolysis of azidopyrimidine I gave isoxazolopyrimidine II and azo compound III.
 IT 150537-04-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photocyclization of)
 RN 150537-04-5 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-azido-2-(2-hydroxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)



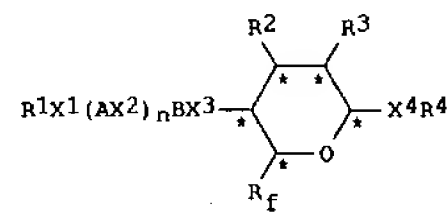
9/811, 359

09/835,523

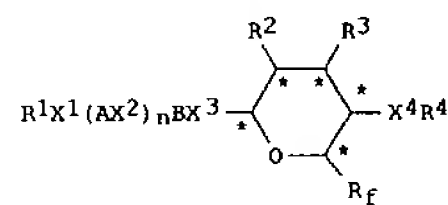
L9 ANSWER 139 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 140 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:509343 CAPLUS
 DOCUMENT NUMBER: 127:197832
 TITLE: Antiferroelectric liquid-crystal composition
 containing optically active tetrahydropyran derivative
 and liquid-crystal device using it
 INVENTOR(S): Namekawa, Masaaki; Takeda, Mitsunori; Ito, Keizo
 PATENT ASSIGNEE(S): Kashima Oil Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

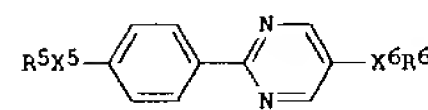
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------|------|----------|-----------------|----------|
| JP 09194840 | A2 | 19970729 | JP 1996-8255 | 19960122 |
| PRIORITY APPLN. INFO.: GI | | | JP 1996-8255 | 19960122 |



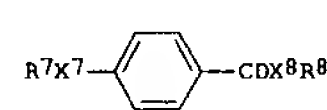
I



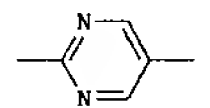
II



III



IV



Q

AB The composition comprises (A) 20-49 weight% optically active tetrahydropyran derivative I and/or II and (B) 51-80% ≥ 1 bicyclic phenylpyrimidine derivative III and/or ≥ 1 tricyclic phenylpyrimidine derivative IV [Rf = C1-2 fluoroalkyl; R1 = C3-20 (branched) alkyl; R2-4 = H, C1-15 (branched) alkyl, C2-15 alkenyl, C7-10 aralkyl; X1 = CO2, OCO, O, none; X2 = CO2,

L9 ANSWER 140 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 OCO, CH2O, OCH2, C.tpbond.C, none; X3 = CO2, CH2O, O; X4 = O, OCO; * = asym. C atom; A, B = halo, cyano, (F-contg. alkyl-substituted) 6-membered ring group; n = 0, 1; R5, R6 = C3-15 alkyl, X5 = O, OCO, none; C, D = Q, 1,4-phenylene]. The liq.-crystal device has the above ferroelec. liq.-crystal compn. between a pair of electrodes. The compn. shows a chiral smectic C phase in wide temp. range and gives device with high-speed response, which is useful for displays and electrooptical devices, etc.

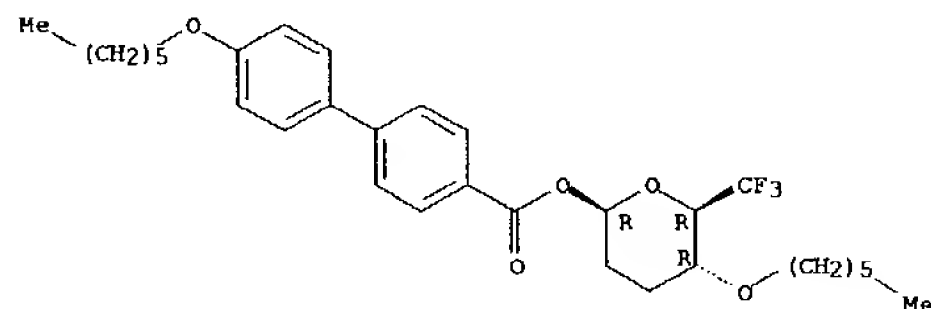
IT 194412-31-2
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (liquid-crystal device using antiferroelec. liquid-crystal composition containing

optically active tetrahydropyran derivative)
 RN 194412-31-2 CAPLUS
 CN {1,1'-Biphenyl}-4-carboxylic acid, 4'-(hexyloxy)-, (2R,5R,6R)-5-(hexyloxy)tetrahydro-6-(trifluoromethyl)-2H-pyran-2-yl ester, , mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, (2R,3R,6S)-6-(hexyloxy)tetrahydro-2-(trifluoromethyl)-2H-pyran-3-yl 4'-(hexyloxy)[1,1'-biphenyl]-4-carboxylate and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 158039-95-3
 CMF C31 H41 F3 O5

Absolute stereochemistry.

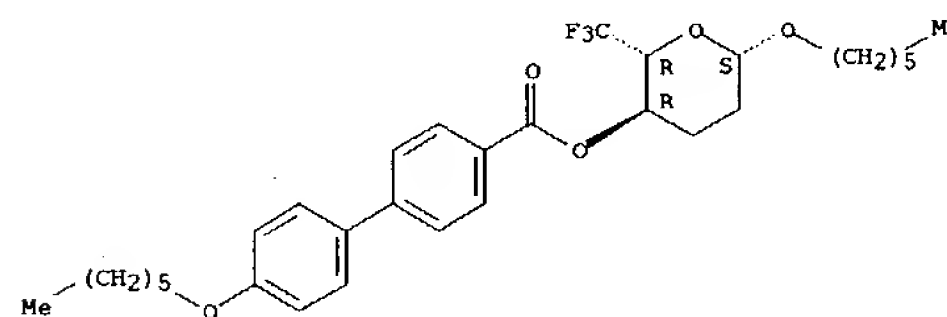


CM 2

CRN 150458-45-0
 CMF C31 H41 F3 O5

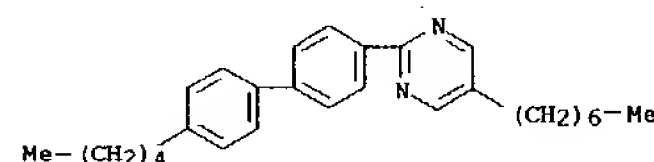
Absolute stereochemistry.

L9 ANSWER 140 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



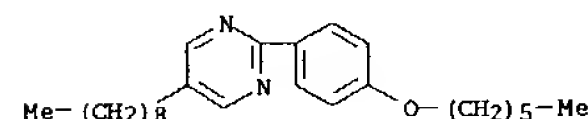
CM 3

CRN 92528-52-4
 CMF C28 H36 N2



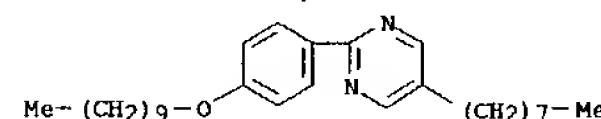
CM 4

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 5

CRN 57202-52-5
 CMF C28 H44 N2 O



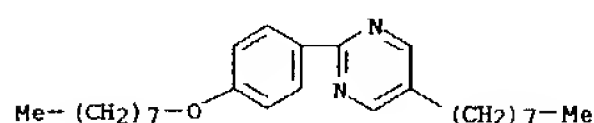
CM 6

CRN 57202-50-3
 CMF C26 H40 N2 O

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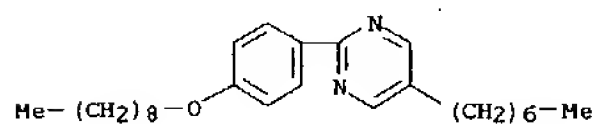
9/811,359

L9 ANSWER 140 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

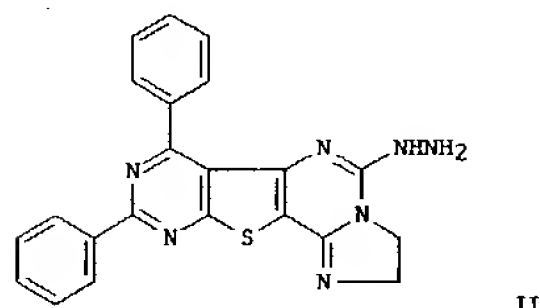
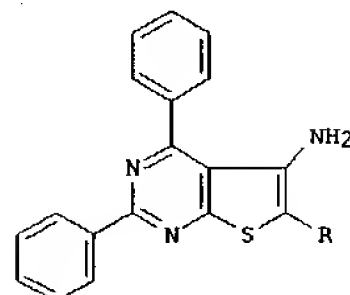


CM 7

CRN 57202-40-1
CMF C26 H40 N2 O



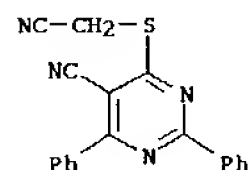
L9 ANSWER 141 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:499808 CAPLUS
DOCUMENT NUMBER: 127:205545
TITLE: Synthesis of novel ring systems. Synthesis of imidazo[1,2-c]-1,2,4-triazolo[4,3-a]pyrimido[5',4':4,5]thieno[2,3-e]pyrimidine derivatives
AUTHOR(S): Geies, A. A.
CORPORATE SOURCE: Faculty Science, Assiut University, Assiut, 71516, Egypt
SOURCE: Pharmazie (1997), 52(7), 500-503
CODEN: PHARAT; ISSN: 0031-7144
PUBLISHER: Govi-Verlag Pharmazeutischer Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



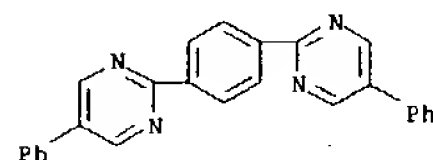
AB A series of partially hydrogenated imidazo[1,2-c]pyrimido[5',4':4,5]thieno[2,3-e]pyrimidines was synthesized from the aminothienopyrimidinenitrile I (R = CN) through the reaction with ethylenediamine and subsequent condensation of the resulting imidazolylthienopyrimidine I (R = 4,5-dihydro-1H-imidazol-2-yl) with CH(OR)₃, CS₂, or aldehydes. Triazolo derivs. were achieved through the reaction of the hydrazino compound II with reagents such as Ac₂O, ClCO₂Et, and CS₂. Some of the compds. prepared showed antibacterial and antifungal activity.

IT 194477-06-0P

L9 ANSWER 141 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and antifungal and antimicrobial activity of imidazotriazolopyrimidothienopyrimidines)
RN 194477-06-0 CAPLUS
CN 5-Pyrimidinecarbonitrile, 4-[(cyanomethyl)thio]-2,6-diphenyl- (9CI) (CA INDEX NAME)



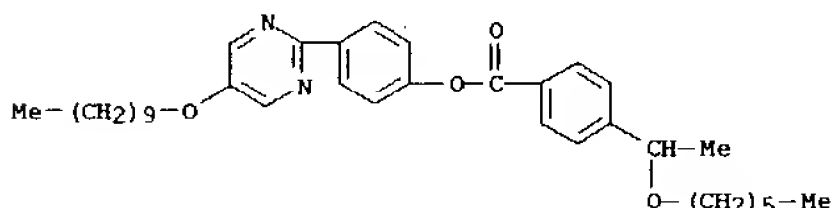
L9 ANSWER 142 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:456733 CAPLUS
DOCUMENT NUMBER: 127:176399
TITLE: Synthesis of oligo(diazaphenyls). Tailor-made fluorescent heteroaromatics and pathways to nanostructures
AUTHOR(S): Gompper, Rudolf; Mair, Hans Jurgens; Polborn, Kurt
CORPORATE SOURCE: Institut Organische Chemie, Universitat Munchen, Munich, D-80333, Germany
SOURCE: Synthesis (1997), (6), 696-718
CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Oligomeric aza derivs. of biphenyl, terphenyl, quaterphenyl, quinquephenyl, sexiphenyl, septiphenyl, octiphenyl, noviphenyl, deciphenyl, and dodeciphenyl and poly(pyrimidinylene) are synthesized from readily accessible vinamidinium salts and amidines or N,N,N'-tris(trimethylsilyl)amidines. The fluorescence of these systems can be tuned over a wide spectral range by varying number and positions of N atoms. Oligo(diazaphenyls) are thermally and photochem. stable, are easier to reduce than oligophenyls, can be dissolved at any rate in strong acids, and show strong blue fluorescence in solution as well as in the solid state.
IT 174303-50-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (crystal structure; preparation of fluorescent oligo(diazaphenyls))
RN 174303-50-5 CAPLUS
CN Pyrimidine, 2,2'-(1,4-phenylene)bis[5-phenyl- (9CI) (CA INDEX NAME)



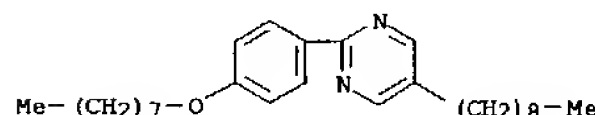
9/811,359

097-835,523

L9 ANSWER 143 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:435478 CAPLUS
DOCUMENT NUMBER: 127:128650
TITLE: Static and dynamic properties of ferroelectric liquid crystal and their novel applications
AUTHOR(S): Yoshino, Katsumi; Fuwa, Yoshiaki; Nakayama, Keizo; Uto, Sadahito; Moritake, Hiroshi; Ozaki, Masanori
CORPORATE SOURCE: Fac. Eng., Osaka Univ., Suita, Japan
SOURCE: Ferroelectrics (1997), 197(1-4), 637-645
CODEN: FEROA8; ISSN: 0015-0193
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The properties of ferroelec. and polymeric ferroelec. liquid crystals (FLC and PFLC) were studied as functions of mol. structure, bias voltage, and boundary conditions. Anomalous rotation of the smectic layer was observed in the ferroelec. and antiferroelec. phases. The direction of the rotation is reversible with the polarity reversal of the applied voltage. The transition temperature (Tc) from smectic A to smectic C* becomes higher with decreasing thickness in free-standing FLC films. On the other hand, Tc in the free-standing PFLC film is similar to that of thick sandwich cell. Electrooptical effects in FLC and PFLC in spin-coated films, free-standing films, and in sandwich cells were also clarified.
IT 154732-59-9, DOPPHOEB
RL: PRP (Properties)
(ferro-, dielec. and electrooptical properties of ferroelec. liquid crystals depending on mol. structure, bias voltage, and boundary conditions)
RN 154732-59-9 CAPLUS
CN Benzoic acid, 4-[1-(hexyloxy)ethyl]-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

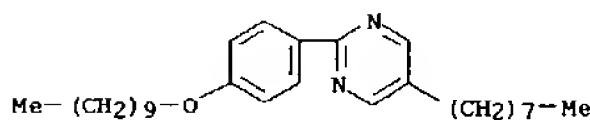


L9 ANSWER 144 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:417415 CAPLUS
DOCUMENT NUMBER: 127:169879
TITLE: Helicoid-stabilized tristable switching in ferroelectric liquid crystal mixtures with ultrashort pitch
AUTHOR(S): Itoh, Keizo; Takanishi, Yoichi; Yokoyama, Jun; Ishikawa, Ken; Takezoe, Hideo; Fukuda, Atsuo
CORPORATE SOURCE: R & D Department, Kashima Oil Co. Ltd., Ibaraki, 314-02, Japan
SOURCE: Japanese Journal of Applied Physics, Part 2: Letters (1997), 36(6B), L784-L787
CODEN: JAPLD8; ISSN: 0021-4922
PUBLISHER: Japanese Journal of Applied Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Antiferroelec.-like tristable switching was observed in smectic liquid crystal mixts. containing chiral dopants derived from trifluoromethylated pyranose. The results of transmittance measurement with obliquely incident light clearly indicate that the phase showing the tristable switching is not antiferroelec. but ferroelec. The helicoidal pitch quadratically changes with the amount of dopant and seems to attain approx. 50 nm in the mixts. with a dopant content of >40%. The quadratic dependence originates from the flexoelec. effect with negligible inter-mol. chiral interaction. Mechanisms for the tristable switching are proposed from the ultrashort pitch.
IT 193825-61-5
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(KB-05; helicoid-stabilized tristable switching in ferroelec. liquid crystal mixts. with ultrashort pitch)
RN 193825-61-5 CAPLUS
CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(pentyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
CM 1
CRN 57202-58-1
CMF C27 H42 N2 O

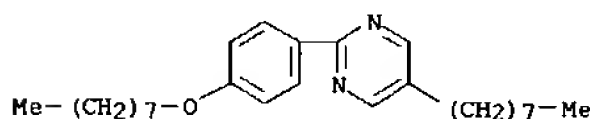


CM 2
CRN 57202-52-5
CMF C28 H44 N2 O

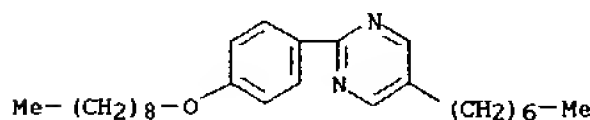
L9 ANSWER 144 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



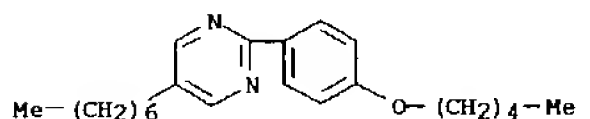
CM 3
CRN 57202-50-3
CMF C26 H40 N2 O



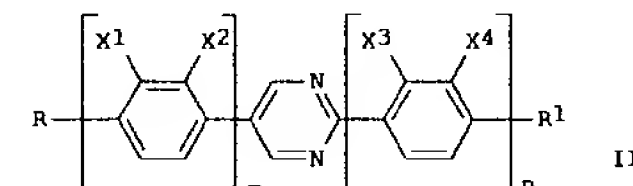
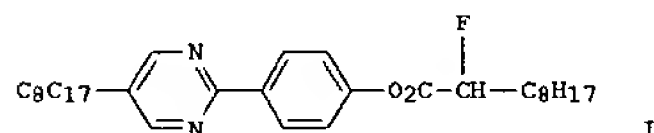
CM 4
CRN 57202-40-1
CMF C26 H40 N2 O



CM 5
CRN 57202-36-5
CMF C22 H32 N2 O



L9 ANSWER 145 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:416660 CAPLUS
DOCUMENT NUMBER: 127:73113
TITLE: Ferroelectric liquid crystal composition containing ester component as chiral dopant for ferroelectric liquid crystal display device
INVENTOR(S): Ri, Kei; Nonaka, Toshiaki; Takechi, Ayako; Yamaguchi, Hidemasa
PATENT ASSIGNEE(S): Hoechst Industry K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JXXXXF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
PATENT NO. KIND DATE APPLICATION NO. DATE
JP 09111239 A2 19970428 JP 1995-271493 19951019
PRIORITY APPLN. INFO.: JP 1995-271493 19951019
OTHER SOURCE(S): MARPAT 127:73113
GI



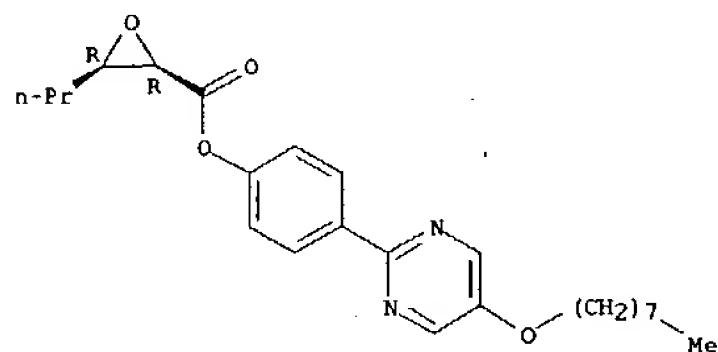
AB A ferroelec. liquid crystal composition, which is used for a ferroelec. liquid crystal display using an inclined vapor deposition film of an inorg. material as an orientation film in at least one of the substrates, contains an ester component (e.g. I) at 0-10 weight% as one of the components of a chiral dopant. The base components of the above liquid crystal composition consist of phenylpyridine derivs. {II; R, R1 = C1-15 alkyl where any one of CH2 groups is optionally replaced by O or Si(CH2)2 or any one of Hs is substituted with F; m, n = 0-2 and m = n ≠ 0; X1 - X4 = H or F}. In this ferroelec. liquid crystal composition, a chiral dopant contributes to the spontaneous polarization and satisfies the following relationship: 0.5Xs ≤ 20 + Ps0/Ps1 (wherein X = weight% content of a chiral dopant component having an ester group; Ps0 = spontaneous polarization of a liquid crystal composition; Ps1 = spontaneous polarization when the chiral dopant content having an ester group is set at 100%). This ferroelec. liquid crystal composition solves problems such as burning or twist phenomenon caused by the thickness of an orientation film (≥500Å) when an inclined vapor deposition film of an inorg. material such as SiO or SiO2 is used as the orientation film, and prevents degradation of various properties, and provides long-lasting high weatherability and thermal

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09/ 835,523

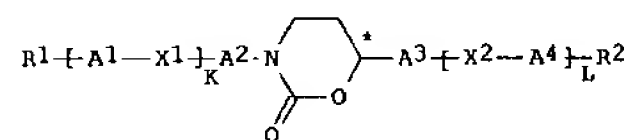
L9 ANSWER 145 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
stability.
IT 178962-81-7
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(chiral dopant, ferroelec. liquid crystal composition containing; ferroelec. liquid crystal composition containing ester component as chiral dopant for ferroelec. liquid crystal display device)
RN 178962-81-7 CAPLUS
CN Oxiranecarboxylic acid, 3-propyl-, 4-[5-(octyloxy)-2-pyrimidinyl]phenyl ester, (2R-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



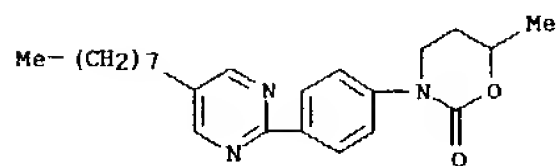
L9 ANSWER 146 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:403244 CAPLUS
DOCUMENT NUMBER: 127:42427
TITLE: Preparation of optically active liquid crystal compounds for liquid crystal displays
INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Takeshi; Kosaka, Yoko; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| JP 09151179 | A2 | 19970610 | JP 1995-334263 | 19951130 |
| PRIORITY APPLN. INFO.: JP 1995-334263 | | | 19951130 | |
| OTHER SOURCE(S): MARPAT 127:42427 | | | | |
| GI | | | | |



AB The title compds. [I; R1 = halo, cyano, R2 = C1-30 linear, branched, or cyclo alkyl; A1, A4 = A2, 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl, etc.; A2 = (un)substituted 1,4-phenylene, pyrimidine-2,5-diyl, etc.; A3 = single bond, A2, 1,4-cyclohexylene, etc.; K, L = 0-1; X1, X2 = single bond, CO2, OCO, CH2O, OCH2, etc.] are prepared I are useful for liquid crystal displays showing rapid response and high contrast. Thus, 4-pentylcyclohexanecarboxylic acid was reacted with 3-(4-hydroxyphenyl)-6-methyl-2-oxotetrahydro-1,3-oxazine (preparation given) in the presence of DCC and 4-dimethylaminopyridine to give 71.3% I (R1 = C5H11, A1 = 1,4-cyclohexylene, X1 = CO2, A2 = Ph, R2 = Me, A3X2A4 = single bond, K = 1).
IT 190517-94-3P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of optically active liquid crystal compds. for liquid crystal displays)
RN 190517-94-3 CAPLUS
CN 2H-1,3-Oxazin-2-one, tetrahydro-6-methyl-3-[4-(5-octyl-2-pyrimidinyl)phenyl]- (9CI) (CA INDEX NAME)

L9 ANSWER 146 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 147 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:402746 CAPLUS
DOCUMENT NUMBER: 127:42415
TITLE: Liquid crystal composition containing indole, quinoxaline, and cyclohexane derivatives, liquid crystal element, and liquid crystal apparatus using the same element
INVENTOR(S): Yamashita, Masataka; Mizuno, Tasuku; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| JP 09104868 | A2 | 19970422 | JP 1995-289226 | 19951012 |
| PRIORITY APPLN. INFO.: JP 1995-289226 | | | 19951012 | |
| OTHER SOURCE(S): MARPAT 127:42415 | | | | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A liquid crystal composition contains an indole derivative (I; R1, R2 = C1-18 linear

or branched alkyl; X1, X2 = single bond, O, CO2, O2C; A1 = single bond, 1,4-phenylene, 2,5-pyrimidinediyl, 1,4-cyclohexylene; A2 = 1,4-phenylene, 2,5- or 5,2-pyrimidinediyl, 1,4-cyclohexylene), a quinoxaline derivative (II; R3, R4 = C1-18 linear or branched alkyl; X3 = single bond, O, CO2, O2C; A3 = 1,4-phenylene or cyclohexylene), and a cyclohexane-containing phenylpyridine derivative (III; R5 = C1-18 linear or branched alkyl; X4, X5 = single bond, O, CO2, O2C; n = 3-16; A4 = Q - Q5) as essential components. Furthermore, a ferroelec. chiral smectic liquid crystal, which shows chiral nematic (cholesteric), smectic, and chiral smectic phase, contains above compds. I - III and ≥ 1 optically active compds. A liquid crystal element possesses a pair of opposing substrates sandwiching above liquid crystal composition and formed with voltage-impressing electrodes on the opposing surfaces and an orientation controlling layer for controlling the orientation state of the liquid crystal on the opposing surface of at least one of the substrates. When the liquid crystal is a chiral smectic liquid crystal, it possesses the following orientation state expressed by the following relations at near room temperature and at least two stable states under this orientation state: $T < \alpha + \delta$ and $\delta < \alpha$ (wherein α = a pretilt angle of the liquid crystal element, T = a tilt angle of the liquid crystal, and δ = a tilt angle of the liquid crystal layer) and $T > \alpha + T/2$ (α = an apparent tilt angle). A liquid crystal apparatus comprises above liquid crystal element and liquid crystal.

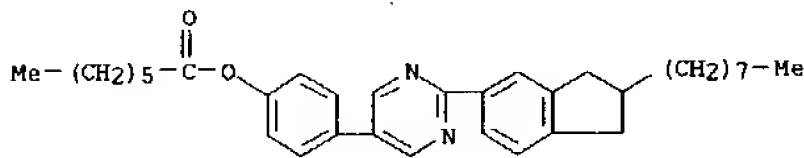
This ferroelec. liquid crystal improved driving durability and is useful for a liquid crystal display and a liquid crystal optical shutter.

IT 150635-58-8
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition containing; liquid crystal composition containing indole,

9/811,359

09/ 835,523

L9 ANSWER 147 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
quinoxaline, and cyclohexane-contg. phenylpyridine derivs., liq.
crystal element, and liq. crystal app. using the same element)
RN 150635-58-8 CAPLUS
CN Heptanoic acid, 4-[2-(2,3-dihydro-2-octyl-1H-inden-5-yl)-5-
pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



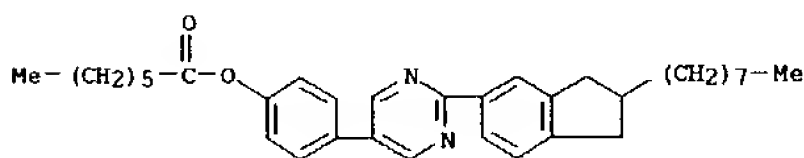
L9 ANSWER 148 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:402736 CAPLUS
DOCUMENT NUMBER: 127:42414
TITLE: Liquid crystal composition containing indole,
quinoxaline, and norbornane derivatives, liquid
crystal element, and liquid crystal apparatus using
the same element
INVENTOR(S): Yamashita, Masataka; Mizuno, Tasuku; Terada, Masahiro;
Mori, Yoshimasa; Yamada, Nobutsugu; Nakazawa, Ikuro
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 09104867 | A2 | 19970422 | JP 1995-289221 | 19951012 |
| PRIORITY APPLN. INFO.: | | JP 1995-289221 19951012 | | |
| OTHER SOURCE(S): | | MARPAT 127:42414 | | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

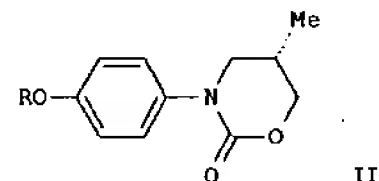
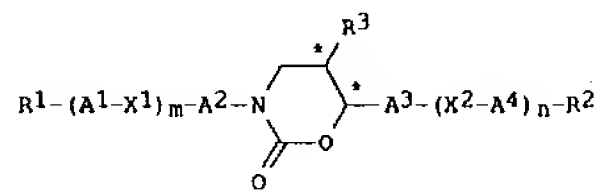
AB A liquid crystal composition contains an indole derivative (I; R1, R2 = C1-18
linear
or branched alkyl; X1, X2 = single bond, O, CO2, O2C; A1 = single bond,
1,4-phenylene, 2,5-pyrimidinediyl, 1,4-cyclohexylene; A2 = 1,4-phenylene,
2,5- or 5,2-pyrimidinediyl, 1,4-cyclohexylene), a quinoxaline derivative (II;
R3, R4 = C1-18 linear or branched alkyl; X3 = single bond, O, CO2, O2C; A3
= 1,4-phenylene or cyclohexylene), and a norbornane derivative (III; R5 =
C1-18 linear or branched alkyl; X4, X5 = single bond, O, CO2, O2C; n =
1-10; A4 = Q - Q5) as essential components. Furthermore, a ferroelec.
chiral smectic liquid crystal, which shows chiral nematic (cholesteric),
smectic, and chiral smectic phase, contains above compds. I - III and
≥1 optically active compds. A liquid crystal element possesses a
pair of opposing substrates sandwiching above liquid crystal composition and
formed with voltage-impressing electrodes on the opposing surfaces and an
orientation controlling layer for controlling the orientation state of the
liquid crystal on the opposing surface of at least one of the substrates.
When the liquid crystal is a chiral smectic liquid crystal, it possesses the
following orientation state expressed by the following relations at near
room temperature and at least two stable states under this orientation state:
 $T\alpha + \delta$ and $\delta\alpha$ (wherein α = a pretilt
angle of the liquid crystal element, T = a tilt angle of the liquid
crystal, and δ = a tilt angle of the liquid crystal layer) and
 $T\alpha > T/2$ (α = an apparent tilt angle). A liquid crystal
apparatus comprises above liquid crystal element and liquid crystal. This
ferroelec. liquid crystal improved driving durability and is useful for a
liquid crystal display and a liquid crystal optical shutter.
IT 150635-58-8
RL: DEV (Device component use); TEM (Technical or engineered material)

L9 ANSWER 148 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
use); USES (Uses)
(liq. crystal compn. contg.; liq. crystal compn., liq. crystal element,
and liq. crystal app. using the same element)
RN 150635-58-8 CAPLUS
CN Heptanoic acid, 4-[2-(2,3-dihydro-2-octyl-1H-inden-5-yl)-5-
pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 149 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:399949 CAPLUS
DOCUMENT NUMBER: 127:42758
TITLE: Preparation of optically active 1,3-oxazine
derivatives, liquid crystal composition and liquid
crystal elements, and liquid crystal apparatus, and
display method using them
INVENTOR(S): Iwaki, Takashi; Takiguchi, Takao; Tokano, Takeshi;
Kosaka, Yoko; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 09110842 | A2 | 19970428 | JP 1995-290678 | 19951013 |
| PRIORITY APPLN. INFO.: | | JP 1995-290678 19951013 | | |
| OTHER SOURCE(S): | | MARPAT 127:42758 | | |
| GI | | | | |



AB The title compds. [I; R2 = H, linear, branched, or cyclic C1-30 alkyl
where 1 or ≥2 CH2 groups are optionally replaced by O, S, CO,
C*HCF3, CHCN, CH:CH, or C.tplbond.C provided that heteroatoms are not
adjacent to each other; R1 = halo, cyano, R2; R3 = linear, branched, or
cyclic C1-20 alkyl where 1 or ≥2 CH2 groups are optionally replaced
by O, S, CO, C*HCF3, CHCN, CH:CH, or C.tplbond.C provided that heteroatoms
are not adjacent to each other; A2 = (un)substituted 1,4-phenylene,
pyrimidine-2,5-diyl, pyridine-2,5-diyl, thiophene-2,5-diyl,
2,6-naphthylene, thiazole-2,5-diyl, thiadiazole-2,5-diyl,
pyrazine-2,5-diyl, pyridazine-3,6-diyl, benzothiazole-2,6-diyl,
benzoxazole-2,5-diyl, indan-2,5-diyl, 2-alkylindan-2,5-diyl, etc.; A3 =
single bond, A2, 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl,
1,3-dithiane-2,5-diyl; A1, A4 = A2, 1,4-cyclohexylene,
1,3-dioxane-2,5-diyl, 1,3-dithiane-2,5-diyl; m, n = 0, 1; X1, X2 = single
bond, CO2, O2C, CH2O, OCH2, CH2CH2, C.tplbond.C; * = optically active C
atom] are prepared A chiral smectic liquid crystal composition containing above
compds. I, a liquid crystal element having this liquid crystal composition placed
between a pair of electrode substrates coated with an orientation control

9/811, 357

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L9 ANSWER 149 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
layer, and a liq. crystal app. fitted with this liq. crystal element and a driving circuit for the liq. crystal element, and a display method to obtain display images by controlling the liq. crystal compn. according to image information are claimed. These optically active compds. are effective for realizing practical application of ferroelec. liq. crystal elements with good switching characteristics, improved low-temp. working characteristics, reduced temp. dependence of optical response speed, high speed response, and high contrast. Thus, 3-(4-hydroxyphenyl)-1,3-oxazine deriv. (II; R = H) (prepn. given) was esterified with 4-pentylcyclohexanecarboxylic acid using DCC in the presence of 4-dimethylaminopyridine in CH₂Cl₂ at room temp. for 10 h to give II (R = 4-pentylcyclohexanecarbonyl).

IT 154162-38-6

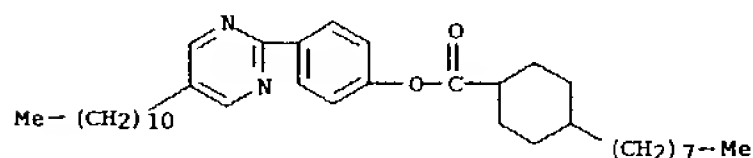
RL: TEM (Technical or engineered material use); USES (Uses)

(liquid crystal composition containing; preparation of optically active 1,3-oxazine

derivs., liquid crystal composition and liquid crystal elements, and liquid crystal apparatus, and display method using them)

RN 154162-38-6 CAPLUS

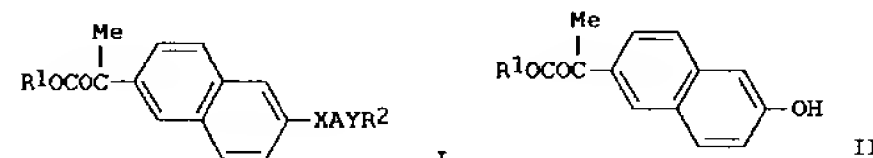
CN Cyclohexanecarboxylic acid, 4-octyl-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 150 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:399576 CAPLUS
DOCUMENT NUMBER: 127:42473
TITLE: Naphthalene compound, liquid crystal composition containing it, and display using it
INVENTOR(S): Totani, Yoshiyuki; Hirao, Motokazu; Ootsuji, Atsuo; Ishida, Tsutomu; Kayashima, Hiroe; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JXXXXF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 09110794 | A2 | 19970428 | JP 1995-271413 | 19951019 |
| PRIORITY APPLN. INFO.: | | JP 1995-271413 19951019 | | |
| OTHER SOURCE(S): | | MARPAT 127:42473 | | |

GI



AB The naphthalene compound comprises I or II [R1 = halo-substituted C1-24 alkyl; R2 = C1-24 alkyl; A = (un)substituted (non)aromatic carbocyclic or heterocyclic group; X = OCH₂, OC(=O); Y = none, O, ester]. The composition and the display contain ≥1 of the naphthalene compds. A display using the compound showed good switching properties.

IT 190439-82-8

RL: DEV (Device component use); USES (Uses)

(naphthalene compound for rapid-response liquid-crystal display)

RN 190439-82-8 CAPLUS

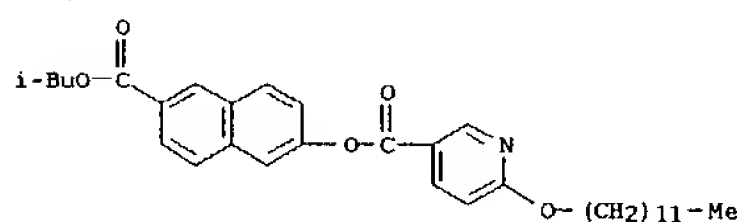
CN 3-Pyridinecarboxylic acid, 6-(decyloxy)-, 6-[(2-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoroundecyl)oxy]-1-methyl-2-oxoethyl)-2-naphthalenyl ester, mixt. with 6-(5-dodecyl-2-pyrimidinyl)-2-naphthalenyl decanoate and 6-[(2-methylpropoxy)carbonyl]-2-naphthalenyl 3-pyridinecarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 190439-81-7

CMF C33 H43 N O5

L9 ANSWER 150 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

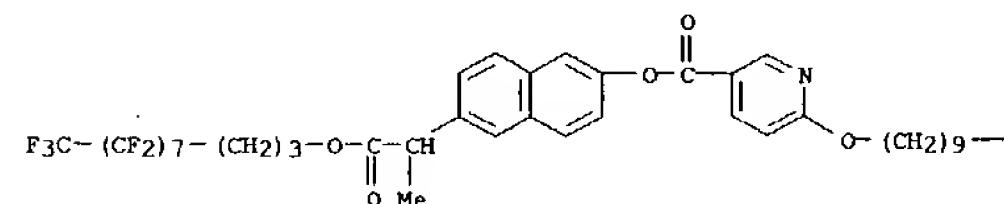


CM 2

CRN 190439-77-1

CMF C40 H40 F17 N O5

PAGE 1-A



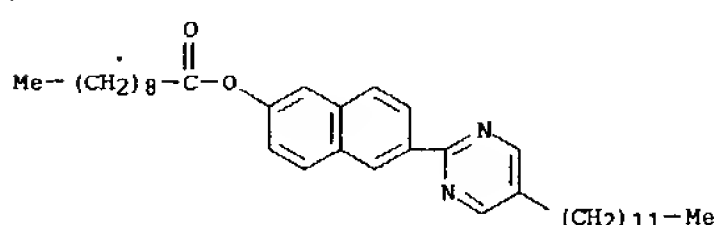
PAGE 1-B

—Me

CM 3

CRN 187524-59-0

CMF C36 H52 N2 O2



L9 ANSWER 151 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:366293 CAPLUS
DOCUMENT NUMBER: 127:42760
TITLE: Optically inactive low-molecular-weight liquid crystals for liquid-crystal display device
INVENTOR(S): Ido, Motohisa; Endo, Hiroyuki
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JXXXXF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 09125064 | A2 | 19970513 | JP 1995-281467 | 19951030 |
| PRIORITY APPLN. INFO.: | | JP 1995-281467 19951030 | | |
| OTHER SOURCE(S): | | MARPAT 127:42760 | | |

AB The invention relates to a optically inactive low-mol.-weight liquid crystal compound, R1R2C=CHCOO(CH₂)mO-A-X(CH₂)nCH₃, (R1, R2 = Me, Et, Pr; m = 1-20; n = 3-19; A = 2-(1,4-phenylene)5-pyrimidyl-, 2-[1,4-phenylene(4-carboxyloxyphenyl)]5-pyrimidyl; X = single bond, O). The liquid crystal compound shows low crystallization temperature, and smectic-C phases over a wide range of

temperature. The composition containing the liquid crystal compound and the ferroelec. liquid crystal polymer, remains compatibility for a long period, and is suited for use as a display element, a memory cell, an acoustic element, and light-dimming glass material in optoelectronics.

IT 189751-56-2P

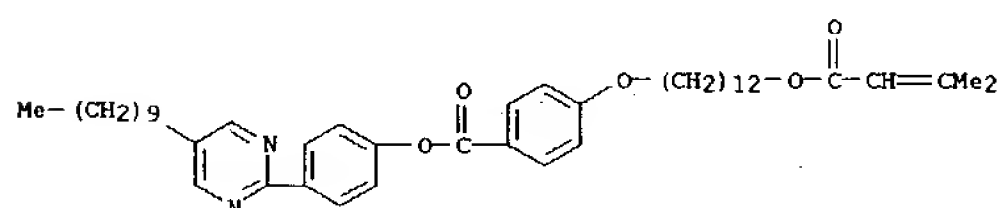
RL: DEV (Device component use); SPN (Synthetic preparation); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)

(optically inactive low-mol.-weight liquid crystal for liquid crystal display element)

RN 189751-56-2 CAPLUS

CN Benzoic acid, 4-[[[12-[(3-methyl-1-oxo-2-butenyl)oxy]dodecyl]oxy]-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



097-835,523

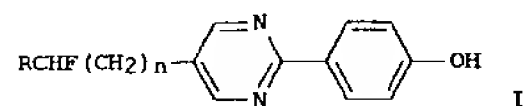
9/811,359

L9 ANSWER 152 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:365998 CAPLUS
 DOCUMENT NUMBER: 127:26390
 TITLE: fluoroalkyl-containing phenylpyrimidine derivatives, liquid-crystal compositions containing them, and liquid-crystal device
 INVENTOR(S): Nakamura, Shinichi; Takiguchi, Takao; Kosaka, Yoko
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

L9 ANSWER 152 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

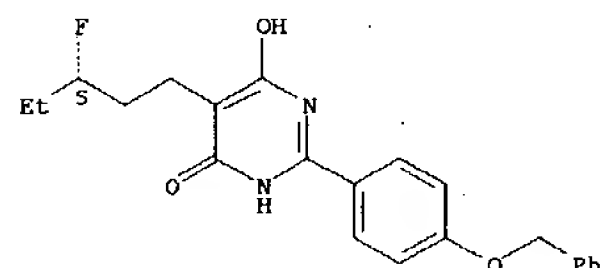
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| JP 09087253 | A2 | 19970331 | JP 1995-244497 | 19950922 |
| PRIORITY APPLN. INFO.: | | | JP 1995-244497 | 19950922 |
| OTHER SOURCE(S): | | | MARPAT 127:26390 | |

GI



AB The title derivs. I (R = C1-16 linear or branched alkyl; n = 1-10) are claimed. Liquid-crystal compns. containing ≥ 1 I and a liquid-crystal device using the compns. are also claimed. I are useful components to prevent reverse domains in twisted-nematic liquid-crystal compns.
 IT 189692-06-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (fluoroalkyl-containing phenylpyrimidine derivs. for liquid crystal displays)
 RN 189692-06-6 CAPLUS
 CN 4(1H)-Pyrimidinone, 5-(3-fluoropentyl)-6-hydroxy-2-[4-(phenylmethoxy)phenyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

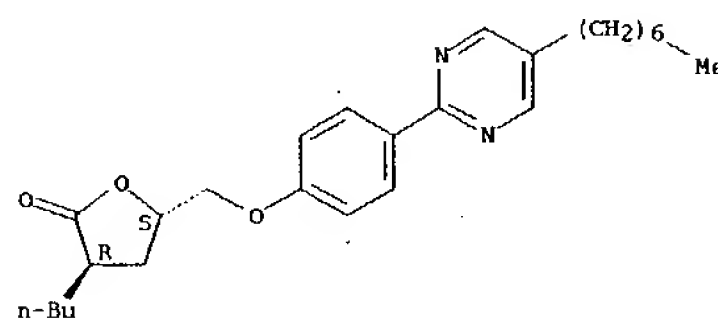


L9 ANSWER 153 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:361177 CAPLUS
 DOCUMENT NUMBER: 127:11174
 TITLE: Alicyclic viscosity-lowering agent for ferroelectric liquid crystal, its manufacture, and liquid-crystal composition and high-response device containing it
 INVENTOR(S): Kadota, Ryuji; Naito, Shuichi; Nishioka, Ayako; Takahashi, Masahiro; Mizuguchi, Junko; Inoue, Osami
 PATENT ASSIGNEE(S): Showa Denko K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

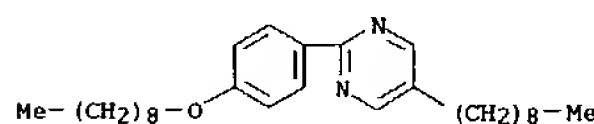
L9 ANSWER 153 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 1
 CRN 189358-35-8
 CMF C26 H36 N2 O3

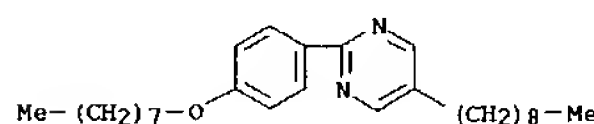
Absolute stereochemistry.



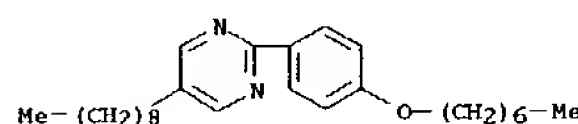
CM 2
 CRN 99895-85-9
 CMF C28 H44 N2 O



CM 3
 CRN 57202-58-1
 CMF C27 H42 N2 O

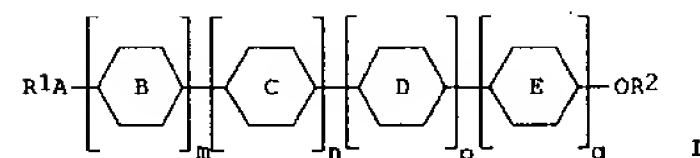


CM 4
 CRN 57202-57-0
 CMF C26 H40 N2 O



| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| JP 09071548 | A2 | 19970318 | JP 1995-228369 | 19950905 |
| PRIORITY APPLN. INFO.: | | | JP 1995-228369 | 19950905 |
| OTHER SOURCE(S): | | | MARPAT 127:11174 | |

GI

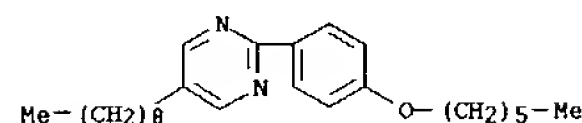


AB The viscosity-lowering agent has a ring-assembly structure except aromatic rings and ≥ 1 double bond, preferably I (R1, R2 = (C1-3 alkoxy- or halo-substituted) (ether linkage-containing) C1-18 linear alkyl, (C1-3 alkoxy- or halo-substituted) (ether linkage-containing) C3-18 alkenyl, (C1-3 alkoxy- or halo-substituted) (ether linkage-containing) C3-18 linear alkynyl; A = O, none; B, C, D, E = isomers of cyclohexene-1,4-diyl or cyclohexadiene-1,4-diyl; m, n, p, q = 0, 1; m + n + p + q ≥ 2). The manufacture of I involves reaction of p-substituted PhOH with a rare earth halide to prepare 4-substituted 3-cyclohexen-1-ol to introduce Z1O structure. The liquid-crystal composition, preferably showing chiral smectic C phase and smectic C phase, contains ≥ 1 I. The device contains ≥ 1 I to show high response.

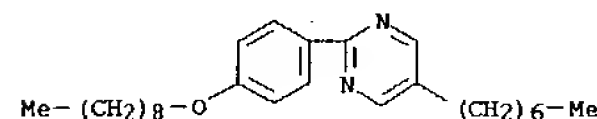
IT 189517-91-7
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (alicyclic viscosity-lowering agent for ferroelec. liquid crystal, its manufacture, and liquid-crystal composition and high-response device containing it)
 RN 189517-91-7 CAPLUS
 CN 2(3H)-Furanone, 3-butyl-5-[[4-(5-heptyl-2-pyrimidinyl)phenoxy]methyl]tetrahydro-, (3R-trans)-, mixt. with 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

9/811, 359

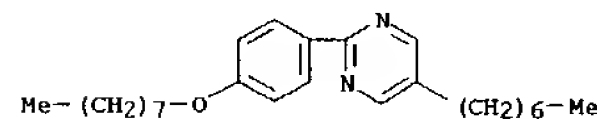
09/ 835, 523

L9 ANSWER 153 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 5CRN 57202-56-9
CMF C25 H38 N2 O

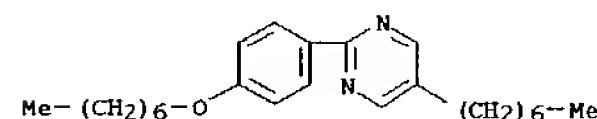
CM 6

CRN 57202-40-1
CMF C26 H40 N2 O

CM 7

CRN 57202-39-8
CMF C25 H38 N2 O

CM 8

CRN 57202-38-7
CMF C24 H36 N2 O

CM 9

CRN 57202-37-6
CMF C23 H34 N2 O

L9 ANSWER 154 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:323939 CAPLUS
 DOCUMENT NUMBER: 126:299731
 TITLE: Nematic liquid crystal composition and liquid crystal display using same
 INVENTOR(S): Kyo, Koken; Matsushita, Tetsuya; Takeshita, Fusayuki; Muraki, Katsuyuki; Sekiguchi, Yasuko; Nakagawa, Etsuo
 PATENT ASSIGNEE(S): Chisso Corp, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 09059638 | A2 | 19970304 | JP 1995-237688 | 19950823 |
| PRIORITY APPLN. INFO.: | | | JP 1995-237688 | 19950823 |

AB The title composition comprises a 1st component represented by R1-A-COOH [R1 = C1-10 alkyl, C2-10 alkenyl in which -CH2- may be substituted with -O-; A = p-cyclohexylene], a 2nd component represented by R2-A-(p-C6H4)-CN [R2 = C1-10 alkyl, C2-10 alkenyl in which -CH2- may be substituted with -O-; A = p-cyclohexylene] etc., a 3rd component represented by R6-E-Z2-G-Z3-J-R7 [R6 = C1-10 alkyl, C2-10 alkenyl in which -CH2- may be substituted with -O-; R7 = C1-10 alkyl, alkoxy, alkoxyethyl; E = trans-1,4-cyclohexylene, pyrimidinylene; G = trans-1,4-cyclohexylene, p-phenylene, p-phenylene with F-substituent; J = trans-1,4-cyclohexylene, p-phenylene; Z2 = -CH2CH2-, -COO-, single bond; Z3 = -C.tplbond.C-, -COO-, -CH:CH-, single bond]. The composition may contain a F-containing liquid crystal(s) as a 4th component.

IT 189125-08-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (nematic liquid crystal composition comprising)

RN 189125-08-4 CAPLUS

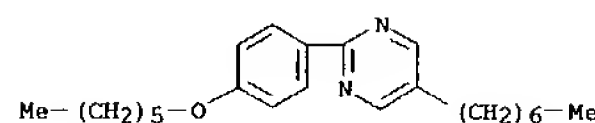
CN Cyclohexanecarboxylic acid, 4-pentyl-, trans-, mixt. with 5-butyl-2-(4'-propyl[1,1'-biphenyl]-4-yl)pyrimidine, [trans(trans)]-4-(4'-ethyl[1,1'-bicyclohexyl]-4-yl)-2-fluorobenzonitrile, trans-4-(4'-ethylcyclohexyl)benzonitrile, 4'-heptyl[1,1'-biphenyl]-4-carbonitrile, 5-hexyl-2-(4'-propyl[1,1'-biphenyl]-4-yl)pyrimidine, 4'-pentyl[1,1'-biphenyl]-4-carbonitrile and trans-4-(4-propylcyclohexyl)benzonitrile (9CI) (CA INDEX NAME)

CM 1

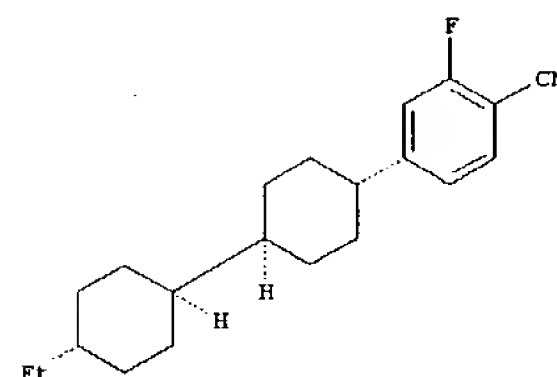
CRN 112026-68-3
CMF C21 H28 F N

Relative stereochemistry.

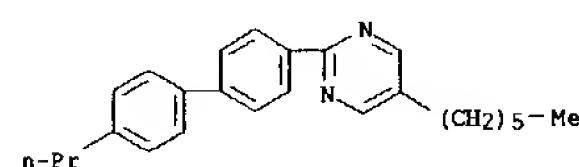
L9 ANSWER 153 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



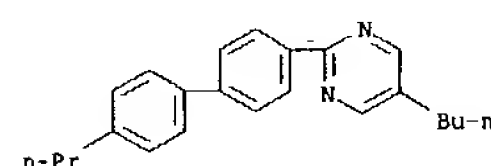
L9 ANSWER 154 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2

CRN 92178-52-4
CMF C25 H30 N2

CM 3

CRN 92178-51-3
CMF C23 H26 N2

CM 4

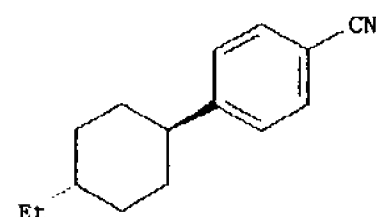
CRN 72928-54-2
CMF C15 H19 N

Relative stereochemistry.

9/811, 359

09/ 835, 523

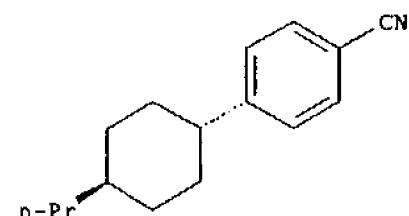
L9 ANSWER 154 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



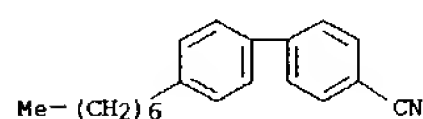
CM 5

CRN 61203-99-4
CMF C16 H21 N

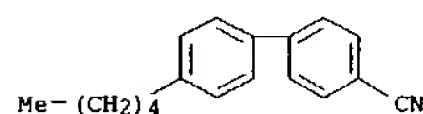
Relative stereochemistry.



CM 6

CRN 41122-71-8
CMF C20 H23 N

CM 7

CRN 40817-08-1
CMF C18 H19 N

L9 ANSWER 155 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:323935 CAPLUS

DOCUMENT NUMBER: 126:299729

TITLE: Liquid crystal element, its manufacture and liquid crystal device

INVENTOR(S): Hanyu, Yukio; Yamada, Nobutsugu; Noguchi, Koji; Sato, Koichi; Mori, Yoshimasa; Nakamura, Shinichi; Shinjo, Kenji

PATENT ASSIGNEE(S): Canon Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKOXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09061827 | A2 | 19970307 | JP 1995-237800 | 19950823 |
| | | | JP 1995-237800 | 19950823 |

PRIORITY APPLN. INFO.:

AB In the title liquid crystal element having a chiral smectic liquid crystal between a pair of orientation film-bearing substrates, there is $\leq 5\%$ of the orientation defect region which deviates from the average normal line of the layer by $\geq 8^\circ$. Manufacture of the liquid crystal element includes injecting a liquid crystal into a cell and cool down slowly to form the smectic A phase of the liquid crystal. The orientation film is formed by an aliphatic polyimide. The invention can produce display with superior display quality, large area, high accuracy and high reliability.

189150-06-9

RL: DEV (Device component use); USES (Uses)
(liquid crystal mixture for liquid crystal element)

RN 189150-06-9 CAPLUS

CN 2(3H)-Furanone, 3-[2-[4-(5-decyl-2-pyrimidinyl)phenoxy]ethyl]-5-hexyldihydro-, mixt. with 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]pyrimidine, 5-nonyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]pyrimidine, 5-octyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]pyrimidine and 5-octyl-2-[4-[(2,2,3,3-tetrafluoro-3-[1,1,2,2-tetrafluoro-2-(nonafluorobutoxy)ethoxy]propoxy]phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

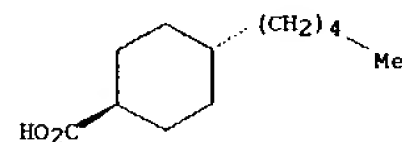
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CMF C32 H48 N2 O3

L9 ANSWER 154 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

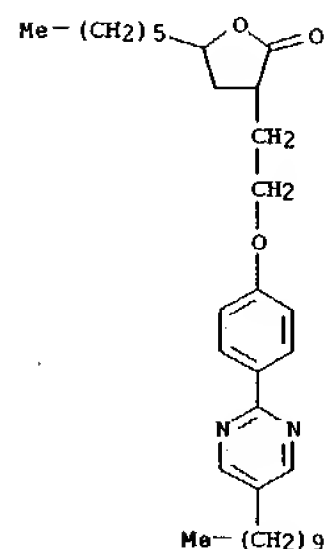
CM 8

CRN 38289-29-1
CMF C12 H22 O2

Relative stereochemistry.



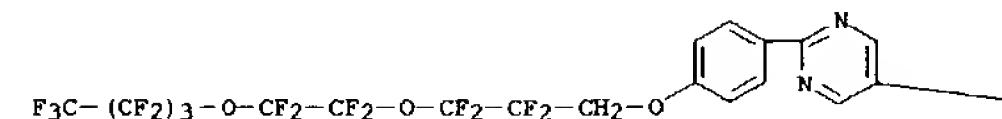
L9 ANSWER 155 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2

CRN 189150-04-7
CMF C27 H25 F17 N2 O3

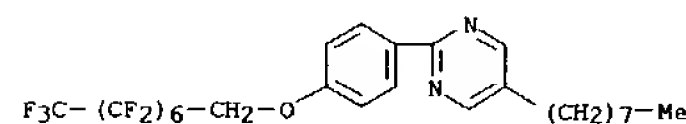
PAGE 1-A



PAGE 1-B

(CH2)7-Me

CM 3

CRN 152915-43-0
CMF C26 H25 F15 N2 O

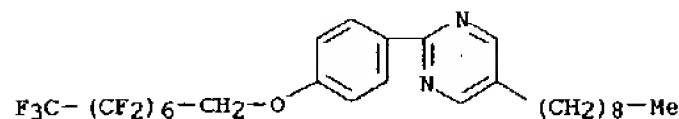
9/811, 359

09/ 835, 523

L9 ANSWER 155 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

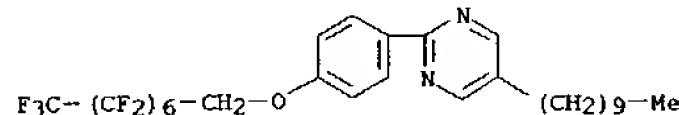
CM 4

CRN 152915-42-9
CMF C27 H27 F15 N2 O



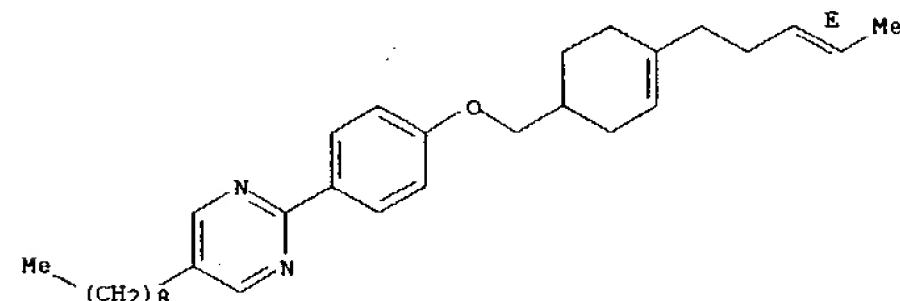
CM 5

CRN 152915-41-8
CMF C28 H29 F15 N2 O



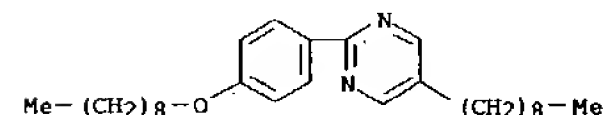
L9 ANSWER 156 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

Double bond geometry as shown.



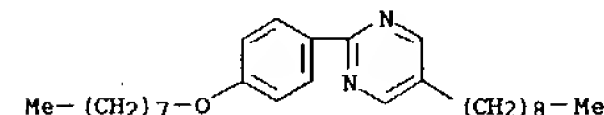
CM 2

CRN 99895-85-9
CMF C28 H44 N2 O



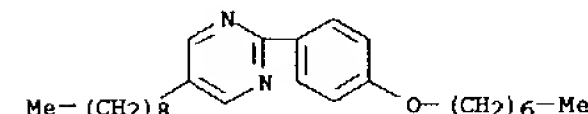
CM 3

CRN 57202-58-1
CMF C27 H42 N2 O



CM 4

CRN 57202-57-0
CMF C26 H40 N2 O



CM 5

CRN 57202-56-9
CMF C25 H38 N2 O

L9 ANSWER 156 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:321906 CAPLUS
DOCUMENT NUMBER: 127:26242
TITLE: High-birefringence liquid crystal dopants
INVENTOR(S): Wand, Michael; Thurmes, William N.; More, Kundalika; Vohra, Rohini T.
PATENT ASSIGNEE(S): Displaytech, Inc., USA
SOURCE: U.S., 33 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| US 5626792 | A | 19970506 | US 1994-301121 | 19940906 |
| PRIORITY APPLN. INFO.: | | | US 1994-301121 | 19940906 |
| OTHER SOURCE(S): | | MARPAT 127:26242 | | |

AB High-birefringence liquid crystal dopants for use in electrooptical devices having the formula R1XCC.tplbond.CDT wherein C and D are aromatic ring systems each of which has one or two 5-member or 6-member carbon rings wherein one or two carbons of any ring in C or D can be substituted with a N, O or S atom and wherein any ring in C or D can be substituted with one or two halogen atoms; T is a halogen atom, a haloalkyl, haloalkoxy, vinylhalide or YR2 group where Y is a single bond, a double bond, a triple bond, COS, CS2, CH=CHCOS, CH=CHCSS or CH=CHCOO and R2 is an alkyl group having 3-20 carbon atoms; X is a single bond, a double bond, a triple bond, O, S or a ZQW group, where Q is a cyclohexane or cyclohexene ring in which one or two of the ring carbons can be replaced with an O atom or in which one or more of the ring carbons can be substituted with a halogen atom or a cyano group, Z is a single bond or an O or S atom and W is a single bond, CH2, C2H4 or CH2O; and R1 is alkyl having 3-20 carbon atoms in which one or more CH2 groups can be halogenated, two neighboring CH2 groups can be substituted with an epoxide group or one or more non-neighboring CH2 groups can be substituted with a double bond, a triple bond, an O or S atom, or a SiRaRb group where Ra and Rb are alkyl or alkenyl having 1-6 carbon atoms are disclosed. The high-birefringence dopants also possess UV stability, IR clarity and other properties that affect LC properties.

IT

190649-35-5
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition for electrooptical display devices)

RN

190649-35-5 CAPLUS

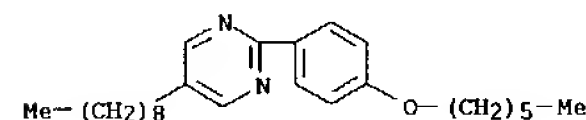
CN

Pyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]-, mixt. with 5-heptyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and (E)-5-nonyl-2-[4-[[4-(3-pentenyl)-3-cyclohexen-1-yl]methoxy]phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

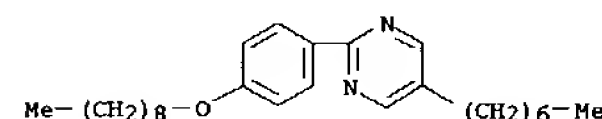
CRN 190649-34-4
CMF C31 H44 N2 O

L9 ANSWER 156 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



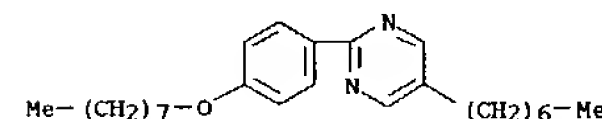
CM 6

CRN 57202-40-1
CMF C26 H40 N2 O



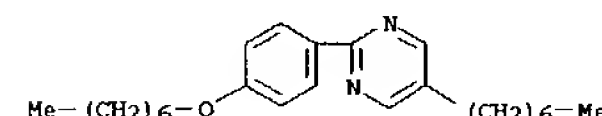
CM 7

CRN 57202-39-8
CMF C25 H38 N2 O



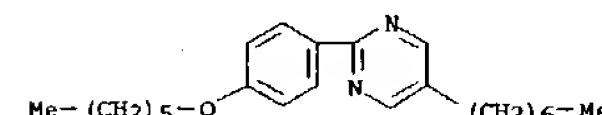
CM 8

CRN 57202-38-7
CMF C24 H36 N2 O



CM 9

CRN 57202-37-6
CMF C23 H34 N2 O



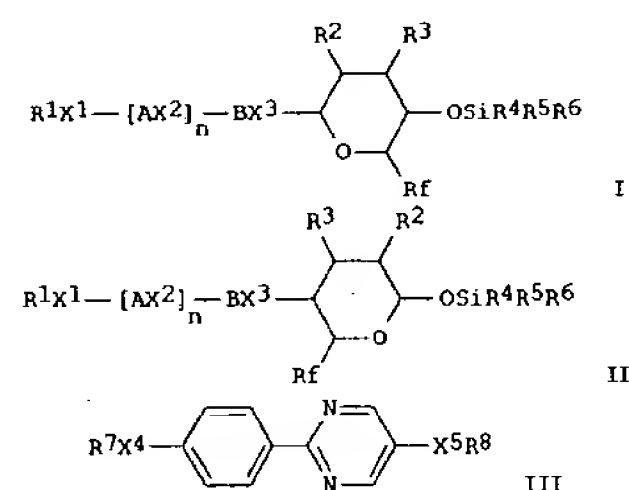
9/811, 359

09/ 835, 523

L9 ANSWER 156 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 157 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:320660 CAPLUS
DOCUMENT NUMBER: 126:299735
TITLE: Ferroelectric liquid crystal composition and liquid crystal device using the same
INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 09059633 | A2 | 19970304 | JP 1995-215816 | 19950824 |
| PRIORITY APPLN. INFO.: | | | JP 1995-215816 | 19950824 |
| GI | | | | |

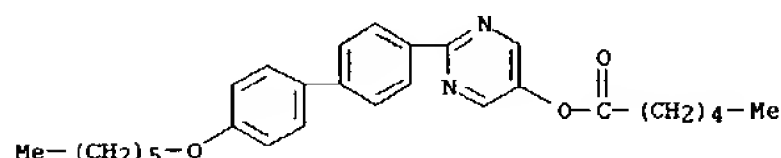


AB The title composition comprises optically active tetrahydropyran derivs. I and/or II [Rf = C1-2 fluoroalkyl; R1 = C3-20 alkyl; R2, R3 = H, C1-15 alkyl, C2-15 alkenyl, C7-10 aralkyl; R4-6 = H, C1-15 alkyl, C2-15 alkenyl, C6-10 aryl, C7-10 aralkyl; X1 = COO, OCO, O, single bond; X2 = COO, OCO, CH2O, OCH2, C.tplbond.C, single bond; X3 = COO, CH2O, O; A, B = 6-membered ring; n = 0, 1], III [R7, R8 = C3-15 alkyl; X4 = O, COO, single bond; X5 = O, single bond] and R8X6(p-C6H4)CDX7R10 [R9, R10 = C3-15 alkyl; X6 = O, single bond; X7 = O, OCO, single bond; C, D = 2,5-pyrimidinylene, 1,4-phenylene]. The composition may contain addnl. R110(p-C6H4)COO(p-C6H4)OR12 [R11, R12 = C3-15 alkyl] and a pitch-cancel agent. The composition has a wide operation temperature range and an excellent fast response time.

IT 189070-41-5
RL: TEM (Technical or engineered material use); USES (Uses)
(ferroelec. liquid crystal composition)

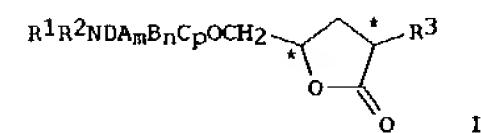
RN 189070-41-5 CAPLUS

L9 ANSWER 157 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CN Hexanoic acid, 2-[4'-(hexyloxy)[1,1'-biphenyl]-4-yl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 158 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:317833 CAPLUS
DOCUMENT NUMBER: 126:299977
TITLE: Optically active compound and ferroelectric liquid crystal composition using it as chiral dopant
INVENTOR(S): Kadota, Ryuji; Nishioka, Ayako; Inoue, Osami
PATENT ASSIGNEE(S): Showa Denko Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 09067357 | A2 | 19970311 | JP 1995-226704 | 19950904 |
| PRIORITY APPLN. INFO.: | | | JP 1995-226704 | 19950904 |
| OTHER SOURCE(S): | | MARPAT 126:299977 | | |
| GI | | | | |



AB The compound includes a core part between 2 sidechains, 1 of which contains amino group and the other contains a lactone ring including 22 chiral carbons. The compound represented by I [R1-3 = C1-18 alkyl, C3-18 alkenyl, C3-18 alkynyl, etc.; A, B, C = unsubstituted or monosubstituted 1,4-phenylene or 2,5- or 5,2-pyridinediyl, or unsubstituted 1,4-cyclohexylidene, 2,5- or 5,2-pyrimidinediyl, or 3,6-pyridazinediyl, or unsubstituted, monosubstituted, or disubstituted 2,6-naphthalenediyl or 7,3-quinolinediyl; m, n, p = 0, 1 (m + n + p ≠ 0); X, X' = H, halo, cyano, C1-5 alkyl, etc.; D = C1-4 bivalent alkyl; symbol * notes that the atom is chiral] is also claimed. The compound is blended with a liquid crystal compound or composition showing smectic C phase and chiral smectic C phase. The composition is useful for liquid crystal displays showing rapid response and high contrast.

IT 189072-52-4
RL: TEM (Technical or engineered material use); USES (Uses)
(chiral compound-doped ferroelec. liquid crystals showing excellent responsibility)

RN 189072-52-4 CAPLUS

CN 2(3H)-Furanone, 3-butyl-5-[[[4'-(hexylmethylamino)methyl][1,1'-biphenyl]-4-yl]oxy]methyl]dihydro-, (5S)-, mixt. with 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

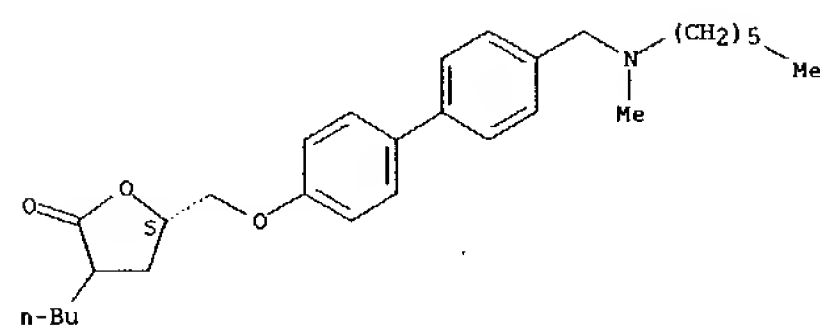
CRN 189072-51-3
CMF C29 H41 N O3

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09/ 835,523

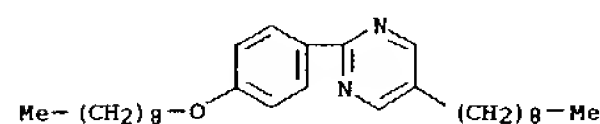
L9 ANSWER 158 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

Absolute stereochemistry.



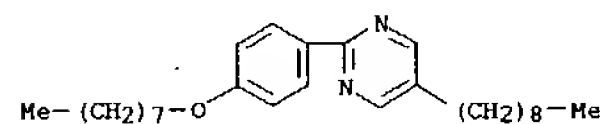
CM 2

CRN 99895-85-9
CMF C28 H44 N2 O



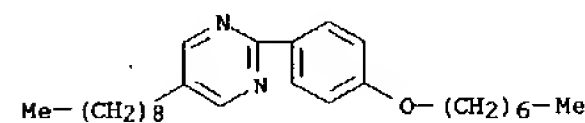
CM 3

CRN 57202-58-1
CMF C27 H42 N2 O

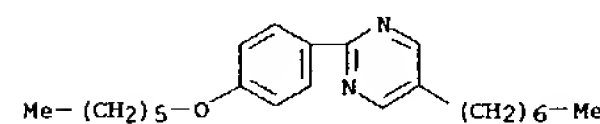


CM 4

CRN 57202-57-0
CMF C26 H40 N2 O

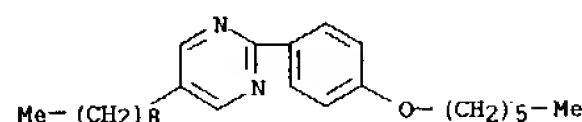


L9 ANSWER 158 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



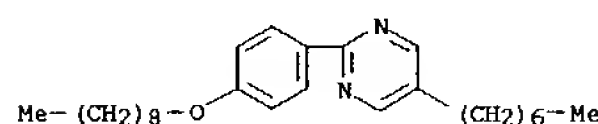
L9 ANSWER 158 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 5

CRN 57202-56-9
CMF C25 H38 N2 O



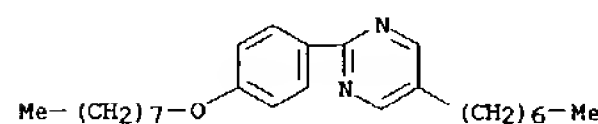
CM 6

CRN 57202-40-1
CMF C26 H40 N2 O



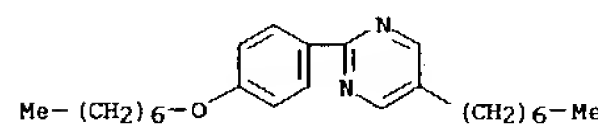
CM 7

CRN 57202-39-8
CMF C25 H38 N2 O



CM 8

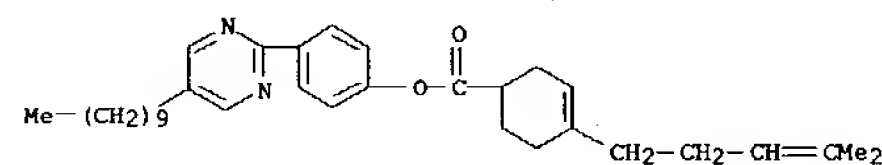
CRN 57202-38-7
CMF C24 H36 N2 O



CM 9

CRN 57202-37-6
CMF C23 H34 N2 O

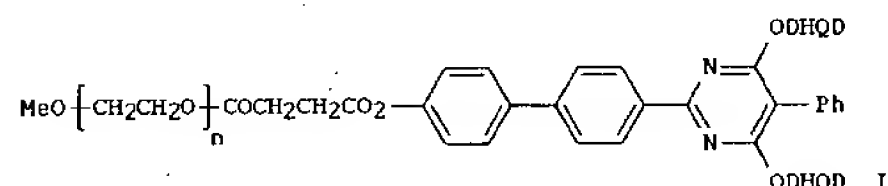
L9 ANSWER 159 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:317226 CAPLUS
DOCUMENT NUMBER: 127:25765
TITLE: FLC materials for microdisplay applications
AUTHOR(S): Thurmes, William N.; Wand, Michael D.; Vohra, Rohini T.; More, Kundalika M.
CORPORATE SOURCE: Displaytech, Inc., Longmont, CO, 80503, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1997), 3015(Liquid Crystal Materials, Devices, and Applications V), 2-7
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ferroelec. liquid crystals (FLCs) exhibit the electrooptic speed necessary for construction of full color, high resolution DRAM-based microdisplays. Special FLC materials are required to meet the performance characteristics required of these reflective microdisplays. The specifications for FLC mixts. for several applications, and an approach to formulating them, is presented herein.
IT 155468-58-9
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(ferroelec. liquid crystal materials for DRAM-based microdisplay applications)
RN 155468-58-9 CAPLUS
CN 3-Cyclohexene-1-carboxylic acid, 4-(4-methyl-3-pentenyl)-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



9/811,359

097 835,523

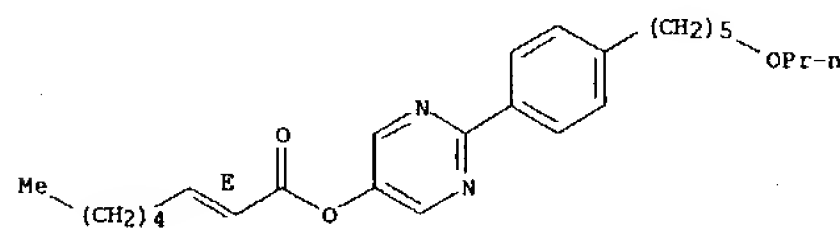
L9 ANSWER 160 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:302052 CAPLUS
 DOCUMENT NUMBER: 127:33921
 TITLE: Asymmetric dihydroxylation with MeO-polyethyleneglycol-bound ligands
 AUTHOR(S): Bolm, Carsten; Gerlach, Arne
 CORPORATE SOURCE: Institut für Organische Chemie der Technischen Hochschule, Aachen, D-52074, Germany
 SOURCE: Angewandte Chemie, International Edition in English (1997), 36(7), 741-743
 CODEN: ACIEAY; ISSN: 0570-0833
 PUBLISHER: VCH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 127:33921
 GI



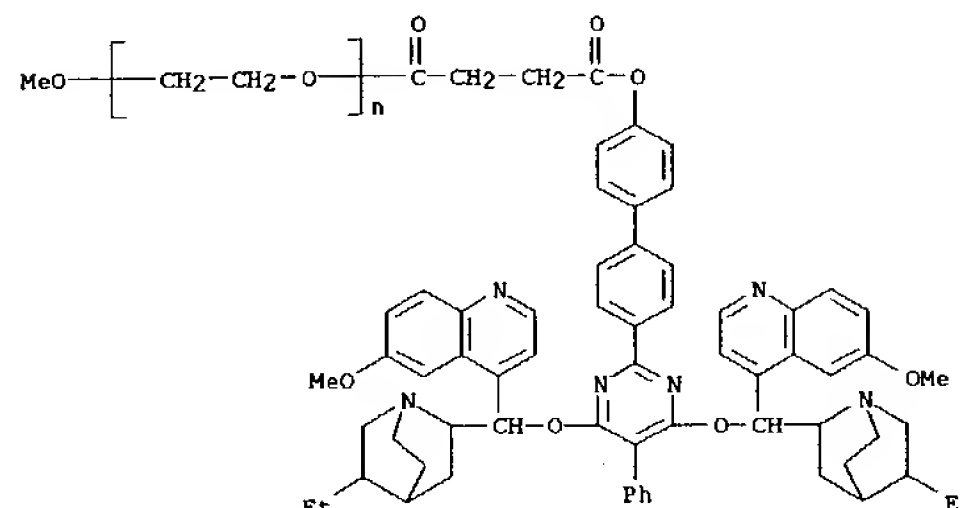
AB Methoxy substituted polyethyleneglycol-bound ligands, e.g., I (ODHQD = dihydroquinidine bonded through the secondary hydroxyl group), were prepared and used in the catalytic asym. dihydroxylation of olefins, e.g., PhCH:CHPh.
 IT 190664-80-3P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of MeO-polyethyleneglycol-bound ligands and use in asym. dihydroxylation of olefins)
 RN 190664-80-3 CAPLUS
 CN Poly(oxy-1,2-ethanediyl), α -[4'-[4'-[4,6-bis[[[(8 α ,9R)-10,11-dihydro-6'-methoxycinchonan-9-yl]oxy]-5-phenyl-2-pyrimidinyl][1,1'-biphenyl]-4-yl]oxy]-1,4-dioxobutyl]- α -methoxy- (9CI) (CA INDEX NAME)

L9 ANSWER 161 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:298352 CAPLUS
 DOCUMENT NUMBER: 126:336860
 TITLE: New liquid crystals for research and application. Part II
 AUTHOR(S): Bata, Lajos; Eber, Nandor; Fodor, Csorba, Katalin; Vajda, Aniko
 CORPORATE SOURCE: MTA KFKI Szilardtestfizikai Kutatóintézet, Budapest, Hung.
 SOURCE: Magyar Kemikusok Lapja (1997), 52(5), 226-232
 CODEN: MGKLAL; ISSN: 0025-0163
 PUBLISHER: Magyar Kemikusok Egyesület
 DOCUMENT TYPE: Journal
 LANGUAGE: Hungarian
 AB Some liquid crystals (pyrimidine derivs. and benzoic acid derivs.) exhibiting ferro-, antiferro- and ferrielec. behavior are presented. The aim of this research in the case of ferroelec. materials is to study the possibilities of applications in ferroelec. displays. At the moment the antiferro- and ferrielec. materials were prepared and studied from the point of view of basic research. The most important properties of these materials are summarized.
 IT 150595-46-3
 RL: PRP (Properties)
 (liquid crystal properties of)
 RN 150595-46-3 CAPLUS
 CN 2-Octenoic acid, 2-[4-(5-propoxypentyl)phenyl]-5-pyrimidinyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



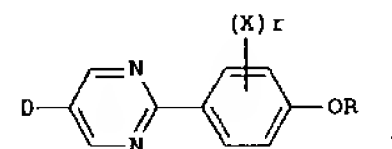
L9 ANSWER 160 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



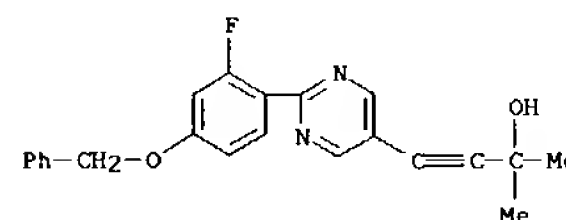
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 162 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:293826 CAPLUS
 DOCUMENT NUMBER: 127:26626
 TITLE: Process for preparation of acetylenyl aromatic compounds
 INVENTOR(S): Fujimoto, Yukari; Minamii, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKKKAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------|------|----------|------------------|----------|
| JP 09077747 | A2 | 19970325 | JP 1995-239824 | 19950919 |
| PRIORITY APPL. INFO.: | | | JP 1995-239824 | 19950919 |
| OTHER SOURCE(S): | | | MARPAT 127:26626 | |
| GI | | | | |



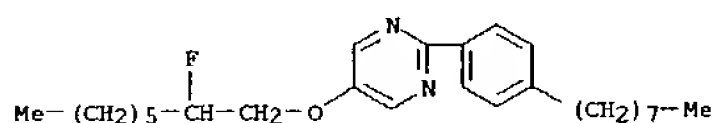
AB Claimed is a process for preparation of the title compds. [I; R = C1-12 alkyl, alkenyl, (un)substituted benzyl; X = F; r = 0-3; D = acetylenyl] by coupling phenylpyrimidines I (D = halo; R, X, r = same as above) with HC.tplbond.C(OH)Me2 over metal catalysts and treating with bases. I are useful as intermediates in the production of drugs, pesticides, and liquid crystals, lower viscosity liquid crystals especially. Thus, I [R = benzyl; (X)r = 3- and 5-F; D = Br] was refluxed in Et3N in the presence of (Ph3P)2PdCl2, CuI2, and Ph3P, and then refluxed in toluene in the presence of NaOH to give the title compound I [D = acetylenyl, R, (X)r = same as above].
 IT 188773-09-3P
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (process for preparation of acetylenyl aromatic compds.)
 RN 188773-09-3 CAPLUS
 CN 3-Butyn-2-ol, 4-[2-[2-fluoro-4-(phenylmethoxy)phenyl]-5-pyrimidinyl]-2-methyl- (9CI) (CA INDEX NAME)



09/ 835,523

9/811, 359

L9 ANSWER 163 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:288523 CAPLUS
 DOCUMENT NUMBER: 127:58490
 TITLE: Landau expansion coefficients for a ferroelectric liquid crystal showing a polarization sign inversion
 AUTHOR(S): Blinov, L. M.; Beresnev, L. A.; Demus, D.; Iablonski, S. V.; Pikin, S. A.
 CORPORATE SOURCE: Institute of Crystallography, Russian Acad. Sci., Moscow, 117333, Russia
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1997), 292, 277-292
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Capacitance, pyroelec. and electrooptical measurements were carried out over a certain temperature range near the smectic A-C* phase transition for a Chisso compound showing the sign inversion of the spontaneous polarization with temperature. Two Landau expansion coeffs., namely, the polarization-to-tilt coupling constant C and the tilt elastic coefficient α were calculated
 Coefficient
 α is close to that known for conventional ferroelec. liquid crystals (e.g., DOBAMBC); coefficient C manifests nonmonotonic temperature dependence with
 a maximum well above the A-C* transition and an inflection point at the transition. This behavior may qual. be understood if the biaxiality induced by a mol. tilt is taken into account.
 IT 155430-67-4
 RL: PRP (Properties)
 (Landau expansion coeffs. for ferroelec. liquid crystal showing polarization sign inversion)
 RN 155430-67-4 CAPLUS
 CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-octylphenyl)- (9CI) (CA INDEX NAME)



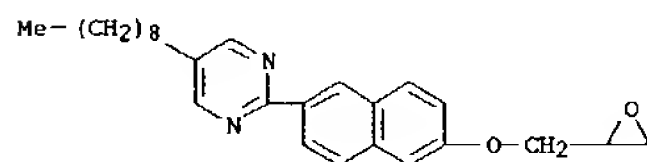
L9 ANSWER 165 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:257432 CAPLUS
 DOCUMENT NUMBER: 127:11358
 TITLE: Preparation of optically active lactone derivatives as ferroelectric liquid crystal compositions
 INVENTOR(S): Kadota, Ryuji; Inoue, Osami
 PATENT ASSIGNEE(S): Showa Denko K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09071578 | A2 | 19970318 | JP 1995-228368 | 19950905 |

PRIORITY APPLN. INFO.: JP 1995-228368 19950905
 OTHER SOURCE(S): MARPAT 127:11358
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. (I; R1 = linear or branched C1-18 alkyl or alkoxy, etc.; R2 = linear or branched C1-18 alkyl or C3-18 alkenyl, etc.; X, X', X'' = H, halo, Me, etc.; n = 0-1) are prepared. I are useful as smectic or chiral smectic C-phase ferroelec. liquid crystal compns. for electrooptical switches. Thus, 6-[5-nonyl-2-pyrimidinyl]-2-naphthol was reacted with R-(-)-epichlorohydrin and cyclized with n-BuCH(CO2Et)2 in the presence of tert-BuOK to give the title compds. (II and III), which showed excellent ferroelec. properties.
 IT 188534-84-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of optically active lactone derivs. as ferroelec. liquid crystal compns.)
 RN 188534-84-1 CAPLUS
 CN Pyrimidine, 5-nonyl-2-[6-(oxiranylmethoxy)-2-naphthalenyl]- (9CI) (CA INDEX NAME)

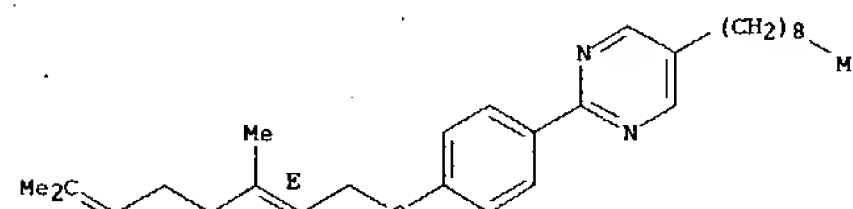


L9 ANSWER 164 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:270078 CAPLUS
 DOCUMENT NUMBER: 126:257115
 TITLE: Terpene derivative, ferroelectric chiral smectic or nematic liquid-crystal composition containing it, and liquid-crystal device using the composition
 INVENTOR(S): Kadota, Ryuji; Inoue, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

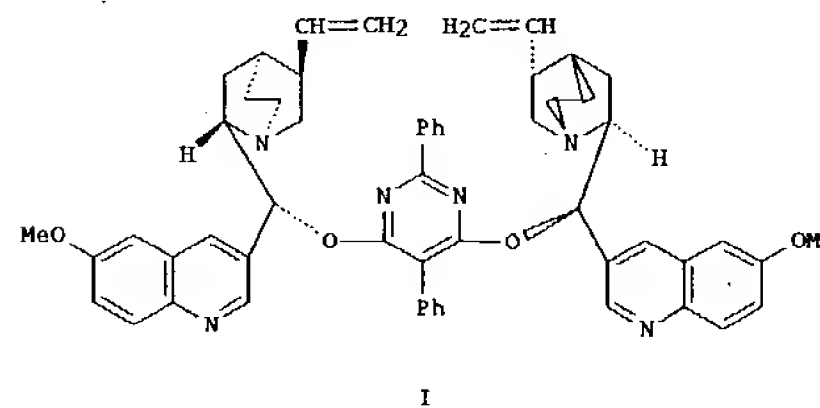
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09040595 | A2 | 19970210 | JP 1995-193226 | 19950728 |

PRIORITY APPLN. INFO.: JP 1995-193226 19950728
 OTHER SOURCE(S): MARPAT 126:257115
 AB The terpene derivative comprises R1G1jAkElJmG2CH2(CH:CMech2CH2)nCH:CMech2 [I; R1 = (alkoxy- or halo-substituted) C1-18 linear alkyl, (alkoxy- or halo-substituted) C3-18 linear alkenyl, (alkoxy- or halo-substituted) C3-18 linear alkynyl; R1 may contain ether linkage; A, E, J = 1,4-C6H10, 2(5),5(2)-pyrimidinediyl, 3,6-pyridazinediyl, X-substituted derivs. containing 1,4-phenylene, 2(5),5(2)-pyridinediyl, X and X1 substituted derivs. containing 2,6-naphthalenediyl, 2(6),6(2)-quinolinediyl; X, X1 = H, halo, cyano, C1-5 alkyl, C1-5 alkoxy, C1-5 trihaloalkyl; j, k, l, m = 0, 1; n = 0-2; G1 = O, S, CCO, CO2, COS, OCO, SCO; G2 = O, S]. The ferroelec. chiral smectic liquid-crystal composition contains I and a (chiral) smectic C liquid-crystal compound. The nematic liquid-crystal composition contains I and a nematic liquid-crystal compound. The liquid-crystal device contains I in a liquid-crystal layer. The composition shows low viscosity and high-speed response and gives high-contrast images.
 IT 188621-97-8
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (ferroelec. chiral smectic or nematic liquid-crystal composition and device containing terpene derivative for low viscosity)
 RN 188621-97-8 CAPLUS
 CN Pyrimidine, 2-[4-[(3,7-dimethyl-2,6-octadienyl)oxy]phenyl]-5-nonyl-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L9 ANSWER 166 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:256083 CAPLUS
 DOCUMENT NUMBER: 126:343705
 TITLE: New polymer supported cinchona alkaloids for heterogeneous catalytic asymmetric dihydroxylation of olefins
 AUTHOR(S): Nandan, E.; Sudalai, A.; Ravindranathan, T.
 CORPORATE SOURCE: Division of Organic Chemistry: Technology, National Chemical Laboratory, Pune, 411 008, India
 SOURCE: Tetrahedron Letters (1997), 38(14), 2577-2580
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



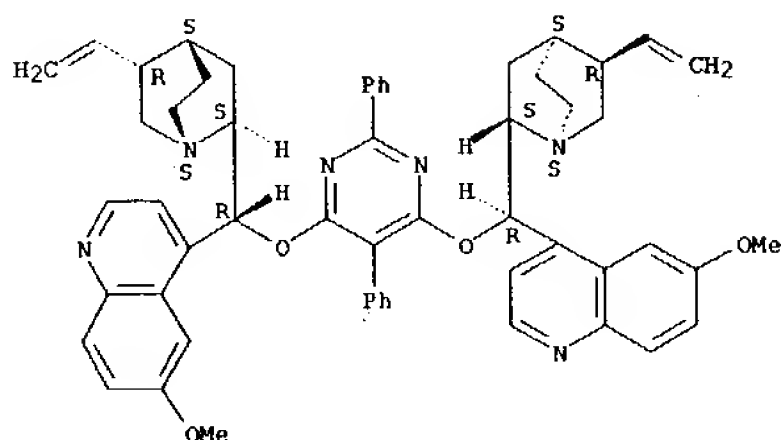
AB Two new polymeric cinchona alkaloid derived ligands were synthesized from the chiral monomer I and utilized in the asym. dihydroxylation of olefins, exhibiting high enantioselectivities in the case of aliphatic terminal olefins under heterogeneous phase.
 IT 189745-70-8P
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (polymer supported cinchona alkaloids for heterogeneous catalytic asym. dihydroxylation of olefins)
 RN 189745-70-8 CAPLUS
 CN Cinchonon, 9,9'-[2,5-diphenyl-4,6-pyrimidinediyl]bis(oxy)]bis[6'-methoxy-, (8 α ,9 α)-(8' α ,9' α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

9/811, 359

09/835,523

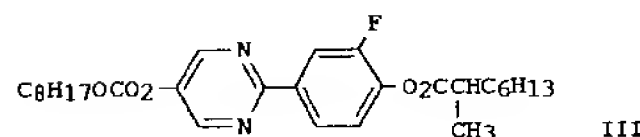
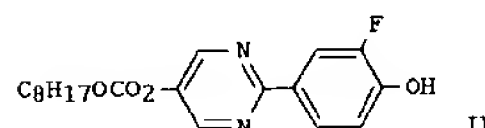
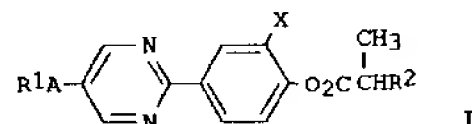
L9 ANSWER 166 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

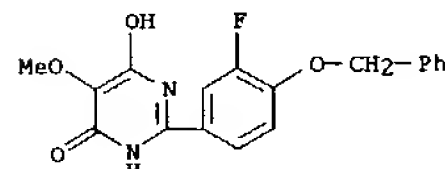
L9 ANSWER 167 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:251022 CAPLUS
 DOCUMENT NUMBER: 126:285790
 TITLE: Preparation of phenylpyrimidine derivatives as antiferroelectric liquid crystal compounds
 INVENTOR(S): Iwatani, Koji; Yamada, Mamoru; Kondo, Hitoshi; Hagiwara, Toshimitsu
 PATENT ASSIGNEE(S): Takasago Perfumery Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 09067350 | A2 | 19970311 | JP 1995-245226 | 19950831 |
| PRIORITY APPLN. INFO.: | | | JP 1995-245226 | 19950831 |
| OTHER SOURCE(S): | | MARPAT 126:285790 | | |



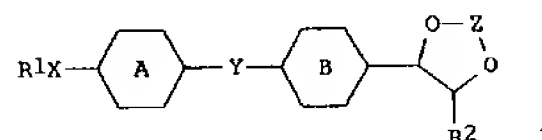
AB The title compds. (I; R1 = C6-16 linear or branched alkyl; R2 = linear C2-8 alkyl, branched C3-12 alkyl; A = single bond, O, CO2, OCO2; X = H, F; when A = OCO2, X = F) are prepared I are useful components for antiferroelec. liquid crystal displays. Thus, pyrimidinylphenol (II) (preparation given) was reacted with (S)-2-methyloctanoyl chloride (preparation given) in the presence of pyridine to give 54.1% the title compound

L9 ANSWER 167 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 [(S)-III]. The test results of liq. crystals contg. (S)-III are presented.
 IT 188425-48-1P
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of phenylpyrimidine derivs. as antiferroelec. liquid crystal compds.)
 RN 188425-48-1 CAPLUS
 CN 4(1H)-Pyrimidinone, 2-[3-fluoro-4-(phenylmethoxy)phenyl]-6-hydroxy-5-methoxy- (9CI) (CA INDEX NAME)



L9 ANSWER 168 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:237796 CAPLUS
 DOCUMENT NUMBER: 126:231595
 TITLE: Optical active 1,3-dioxolan derivative, liquid crystal composition, and display device using it
 INVENTOR(S): Takehara, Sadao; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 09025484 | A2 | 19970128 | JP 1995-174854 | 19950711 |
| PRIORITY APPLN. INFO.: | | | JP 1995-174854 | 19950711 |
| OTHER SOURCE(S): | | MARPAT 126:231595 | | |



AB The compound I [R1 = C1-18 alkyl; X = bond, O; A, B = 1,4-phenylene, trans-1,4-cyclohexylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, (all may be substituted for F); Y = CH2CH2, CH2O, OCH2, C.tplbond.C, bond; Z = CH2, CO; R2 = H, C1-18 alkyl] is claimed. The liquid crystal composition containing I and the display device using it are also claimed. I is a chiral dopant for smectic C phase liquid crystal composition and the composition shows large spontaneous polarization and rapid response.

IT 188131-78-4
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition containing dioxolan derivative as chiral dopant)
 RN 188131-78-4 CAPLUS
 CN 1,3-Dioxolan-2-one, 4-[4-(5-decyl-2-pyrimidinyl)phenyl]-5-heptyl-, (4R-cis)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

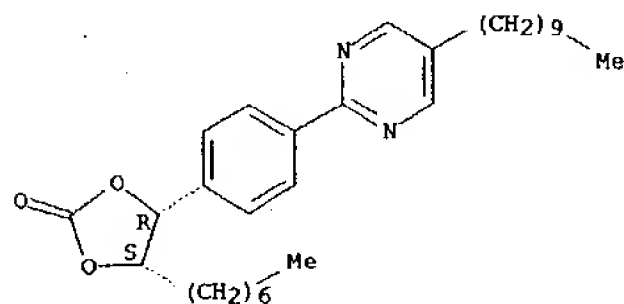
CRN 188131-77-3
 CMF C30 H44 N2 O3

Absolute stereochemistry.

9/811,359

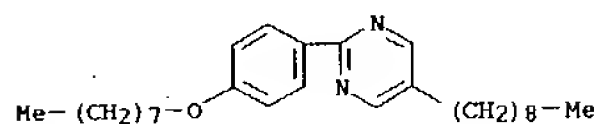
09/835,523

L9 ANSWER 168 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



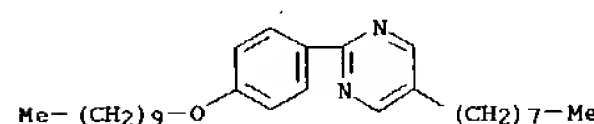
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CRN 57202-58-1
CMF C27 H42 N2 O



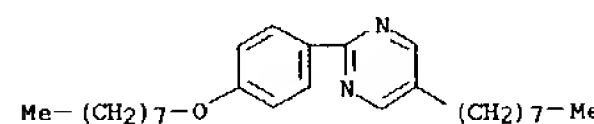
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CRN 57202-52-5
CMF C28 H44 N2 O



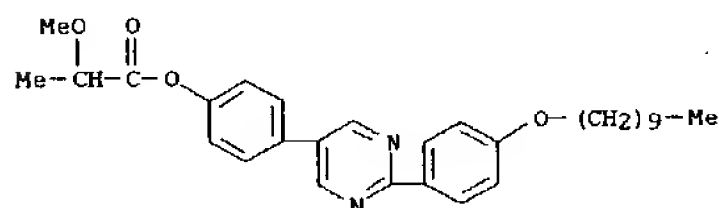
CM 4

CRN 57202-50-3
CMF C26 H40 N2 O



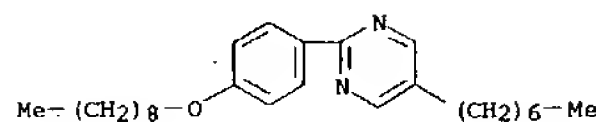
CM 5

L9 ANSWER 169 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:225565 CAPLUS
DOCUMENT NUMBER: 126:285702
TITLE: Induction of smectic A phases by electron donor-acceptor interaction between calamitic mesogens and 2,4,7-trinitrofluorenone
AUTHOR(S): Neumann, Bernhard; Joachimi, Detlev; Tschierske, Carsten
CORPORATE SOURCE: Institut fuer Organische Chemie, Martin-Luther-Universitaet Halle-Wittenberg, Halle, D-06120, Germany
SOURCE: Liquid Crystals (1997), 22(4), 509-513
CODEN: LICRE6; ISSN: 0267-8292
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The mesomorphic properties of conventional rod-like liquid crystals (diphenyl-1,3,4-thiadiazoles, diphenylpyrimidines, diphenyltriazines, diphenyltetrazines and p-terphenyl derivs.), of macrocyclic liquid crystals and of dimesogenes can be influenced by addition of the electron acceptor 2,4,7-trinitrofluorenone (TNF). Thereby nematic and smectic C phases are suppressed and smectic A phases can be stabilized or induced. Long and branched terminal chains result in a strong stabilization of the SA phase, whereas no smectic phase is induced to accompany the nematic phases of mesogens with short terminal chains.
IT 188997-72-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(induction of smectic A phases by electron donor-acceptor interaction between calamitic mesogens and trinitrofluorenone)
RN 188997-72-0 CAPLUS
CN Propanoic acid, 2-methoxy-, 4-[2-[4-(decyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 168 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CRN 57202-40-1
CMF C26 H40 N2 O



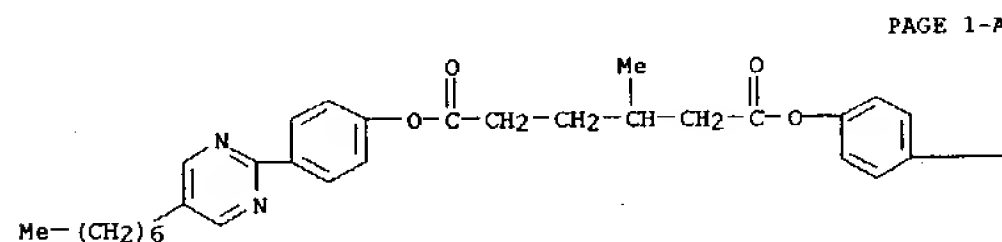
L9 ANSWER 170 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:220027 CAPLUS
DOCUMENT NUMBER: 126:218691
TITLE: Optical recording medium using cyanobiphenyl-based liquid crystal
INVENTOR(S): Akata, Masanori; Kamyama, Hironori; Takeshige, Shoji
PATENT ASSIGNEE(S): Dai Nippon Printing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 09015640 | A2 | 19970117 | JP 1995-164954 | 19950630 |
| PRIORITY APPLN. INFO.: | | | JP 1995-164954 | 19950630 |

OTHER SOURCE(S): MARPAT 126:218691
AB The medium includes a recording layer containing liquid crystals of 4-nonyl(oxy)-4'-cyanobiphenyl and/or 4-decyl(oxy)-4'-cyanobiphenyl, and no other 4-alkyl(oxy)-4'-cyanobiphenyl analogs. The medium provides records with high contrast.
IT 187879-20-5
RL: DEV (Device component use); USES (Uses)
(optical recording medium using cyanobiphenyl-based liquid crystal)
RN 187879-20-5 CAPLUS
CN Hexanedioic acid, 3-methyl-, bis[4-(5-heptyl-2-pyrimidinyl)phenyl] ester, mixt. with 4'-(decyloxy)[1,1'-biphenyl]-4-carbonitrile, 4'-nonyl[1,1'-biphenyl]-4-carbonitrile and 4'-(nonyloxy)[1,1'-biphenyl]-4-carbonitrile (9CI) (CA INDEX NAME)

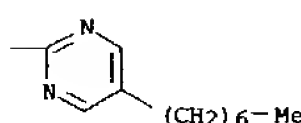
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CRN 174303-77-6
CMF C41 H52 N4 O4



PAGE 1-A

PAGE 1-B

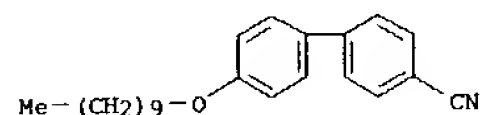


CM 2

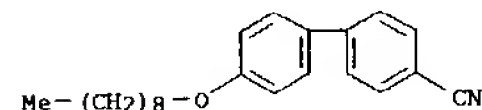
9/811, 359

~~09/ 835,523~~

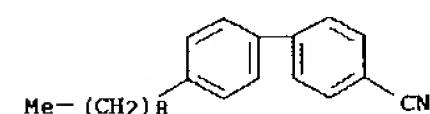
L9 ANSWER 170 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CRN 70247-25-5
CMF C23 H29 N O

CM 3

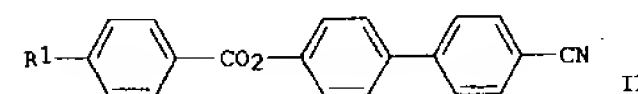
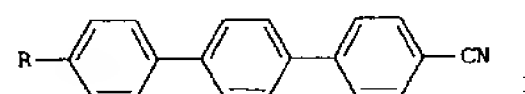
CRN 58932-13-1
CMF C22 H27 N O

CM 4

CRN 52709-85-0
CMF C22 H27 N

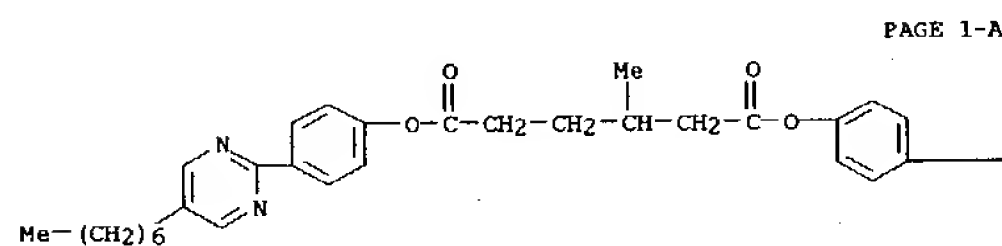
L9 ANSWER 171 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:217734 CAPLUS
 DOCUMENT NUMBER: 126:205546
 TITLE: Smectic liquid crystal composition for information recording medium
 INVENTOR(S): Nishama, Isa; Yoshizawa, Atsushi; Ishizuka, Hidemi
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 09013035 | A2 | 19970114 | JP 1995-186484 | 19950630 |
| PRIORITY APPLN. INFO.: | | JP 1995-186484 19950630 | | |
| OTHER SOURCE(S): | | MARPAT 126:205546 | | |



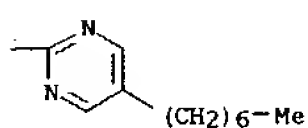
AB The composition contains 4-nonyl-4'-cyanobiphenyl, 4-nonyloxy-4'-cyanobiphenyl, 4-decyl-4'-cyanobiphenyl, and/or 4-decyloxy-4'-cyanobiphenyl, and is substantially free from 4-alkyl-4'-cyanobiphenyls and 4-alkyloxy-4'-cyanobiphenyls. The composition may further contain I (R = C1-15 alkyl) or II (R1 = C1-15 alkyl or C1-15 alkoxy), and a 2-methylalkanoylphenyl derivative. Information recording medium with high contrast is obtained by using the composition.
 IT 174303-77-6
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (in smectic liquid crystal composition for information recording medium)
 RN 174303-77-6 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-heptyl-2-pyrimidinyl)phenyl] ester (9CI) (CA INDEX NAME)

L9 ANSWER 171 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



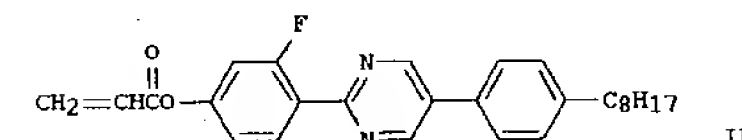
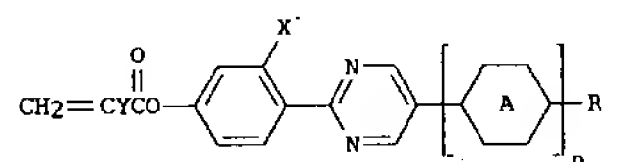
PAGE 1-A

PAGE 1-B

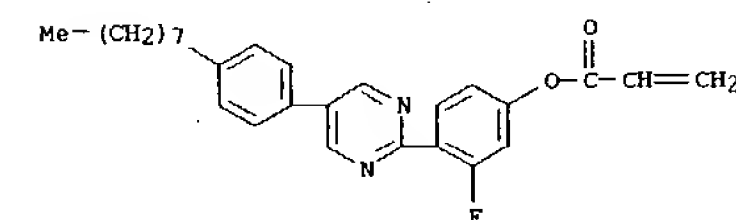


L9 ANSWER 172 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:211174 CAPLUS
 DOCUMENT NUMBER: 126:245157
 TITLE: Preparation of pyrimidine liquid crystals
 INVENTOR(S): Hasebe, Hiroshi; Takatsu, Haruyoshi; Oosawa, Masashi; Takehara, Sadao
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 09048760 | A2 | 19970218 | JP 1995-198824 | 19950803 |
| PRIORITY APPLN. INFO.: | | JP 1995-198824 19950803 | | |
| OTHER SOURCE(S): | | MARPAT 126:245157 | | |



AB The title compds. I-[R = alkyl, etc.; ring A = 1,4-phenylene, etc.; n = 0 or 1; X = H, F; Y = H, methyl] are prepared. The title compound II showed the transition temperature of 142° between the smectic A and nematic phases.
 IT 185025-52-9P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of pyrimidine liquid crystals)
 RN 185025-52-9 CAPLUS
 CN 2-Propenoic acid, 3-fluoro-4-[5-(4-octylphenyl)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



9/811,359

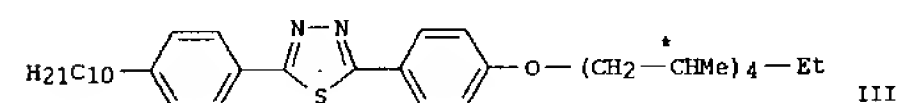
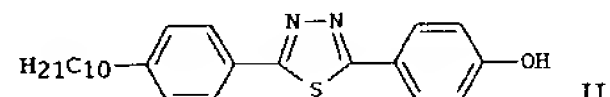
09/835,523

L9 ANSWER 172 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 173 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:211150 CAPLUS
 DOCUMENT NUMBER: 126:218959
 TITLE: Preparation of liquid crystal compounds as liquid crystal display devices and optical switches
 INVENTOR(S): Hornung, Barbara; Wingen, Rainer; Morc, Michael; Loetzsch, Detlef; Heppke, Gerd
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------|------|----------|------------------|----------|
| JP 09031028 | A2 | 19970204 | JP 1996-192078 | 19960722 |
| DE 19627899 | A1 | 19970123 | DE 1996-19627899 | 19960711 |
| US 5776363 | A | 19980707 | US 1996-683298 | 19960718 |
| PRIORITY APPLN. INFO.: MARPAT 126:218959 | | | DE 1995-19526611 | 19950721 |
| OTHER SOURCE(S): | | | | |

GI



AB The title liquid crystal compds. R1(A1M1)a(A2M2)b(A3M3)cA4G(C*HMeCH2)nR2 (I; R1 = H, F, Cl, CF3, alkyl, etc.; R2 = Me, Et; A1, A2, A3, A4 = 1,4-phenylene, pyrimidine-2,5-diyl, etc.; M1, M2, M3, M4 = CO2, OCO; G = CO2CH2, OCH2, O; a, b, c = 0-1; a + b + c = 1-3; n = 3-4) containing many methyls are prepared. I are useful as liquid crystal display devices and optical switches. Thus, (2R,4R,6R,8R)-2,4,6,8-tetramethyldecanol was reacted with thiadiazole (II) in the presence of Ph3P and N2(CO2Et)2 to give the title compound (III), which showed Ps of 8.6 nC/cm2 at 55.5° and X of 64 (Sc* 59) I.

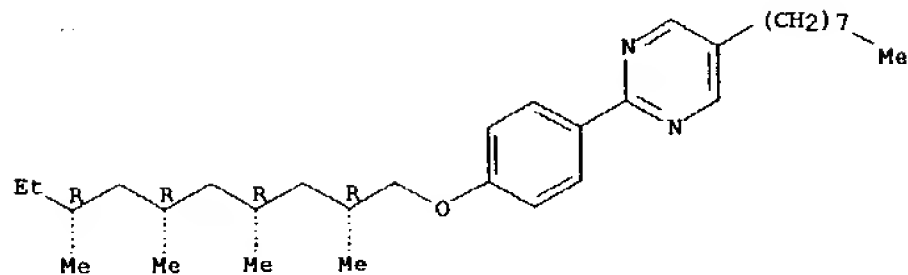
IT 187880-71-3P
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation of liquid crystal compds. as liquid crystal display devices and optical switches)

RN 187880-71-3 CAPLUS

CN Pyrimidine, 5-octyl-2-[4-[(2,4,6,8-tetramethyldecyl)oxy]phenyl]-, (2R-(2R*,4R*,6R*,8R*))]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

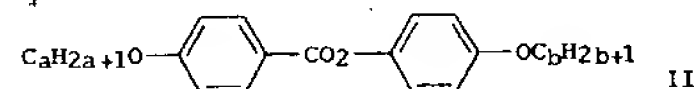
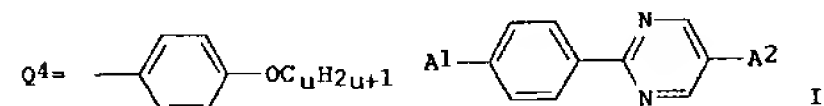
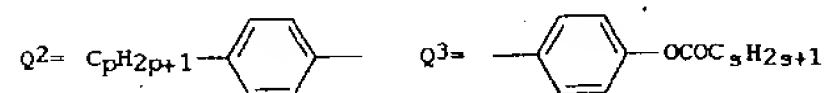
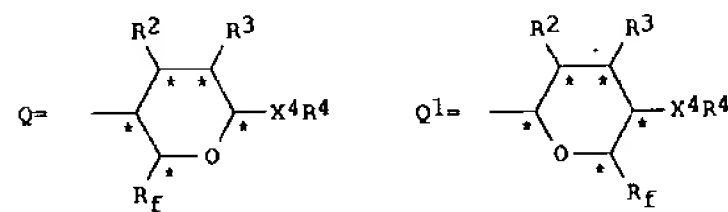
L9 ANSWER 173 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 174 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:172373 CAPLUS
 DOCUMENT NUMBER: 126:179145
 TITLE: Ferroelectric liquid crystal composition containing optically active tetrahydropyran derivatives and liquid crystal devices
 INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------|------|----------|-----------------|----------|
| JP 09013036 | A2 | 19970114 | JP 1995-165671 | 19950630 |
| PRIORITY APPLN. INFO.: MARPAT 126:179145 | | | JP 1995-165671 | 19950630 |
| OTHER SOURCE(S): | | | | |

GI



AB Claimed is a ferroelec. liquid crystal composition containing (1) an optically active tetrahydropyran derivative of formula R1X1(A-X2)nBX3R (R = Q, Q1; Rf = C1-2 fluoroalkyl; R1 = C3-20 linear or branched alkyl; R2, R3, R4 = H, C1-15 linear or branched alkyl, C2-15 alkenyl, C7-10 aralkyl; X1 = CO2, O2C, O, single bond; X2 = CO2, O2C, CH2O, OCH2, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, O2C; * denotes an asym. C atom; A, B = halo, cyano, 6-membered ring-containing group optionally substituted by fluoroalkyl; n = 0,1), (2) at least one 2-(4-hydroxyphenyl)pyrimidine ether derivative (I; A1 = CkH2k-10, A2 = CmH2m+1; k, m = 1-15) and at least one 2-phenyl-5-hydroxypyrimidine ether derivative I (A1 = CdH2d+1, A2 = OCeH2e+1; d, e = 1-15), (3) at least one 2-(4-hydroxyphenyl)pyrimidine ether derivative I (A1 =

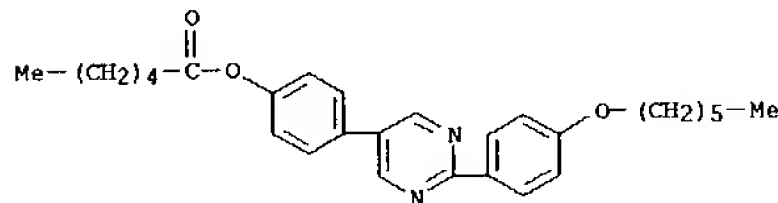
9/811, 359

09/835,523

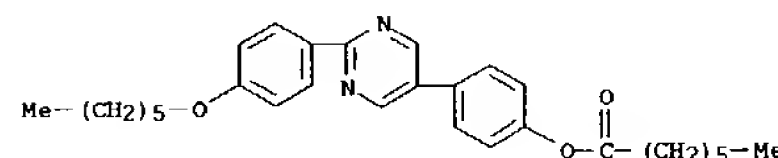
L9 ANSWER 174 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CwH2w+1CO2, A2 = CvH2v+1; v, w = 1-15), (4) at least one compd. selected from 2-(4-biphenyl)pyrimidine deriv. I (A1 = Q2, A2 = CqH2q+1; p, q = 1-15), 2,5-bis(4-hydroxyphenyl)pyrimidine ester ether deriv. I (A1 = CrH2r+1, A2 = Q3; r, s = 1-15), and 5-(4-hydroxyphenyl)-2-phenylpyrimidine ether deriv. I (A1 = CtH2t+1, A2 = Q4; t, u = 1-15), and (5) at least one p-alkoxyphenyl p-alkoxybenzoate (II; a, b = 1-15). A liq. crystal device with above ferroelec. liq. crystal compn. placed between a pair of electrodes-attached substrates is claimed. This liq. crystal compn. shows ferroelec. chiral smectic C phase at a broad temp. range and thermal stability and is excellent in responsiveness due to large spontaneous polarization and high speed response and is suitable for display device and electrooptical devices.

IT 186090-20-0
RL: TEM (Technical or engineered material use); USES (Uses)
(component for ferroelec. liquid crystal composition; ferroelec. liquid crystal composition containing optically active tetrahydropyran derivs. and liquid crystal devices)

RN 186090-20-0 CAPLUS
CN Hexanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI)
(CA INDEX NAME)



L9 ANSWER 175 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
(CA INDEX NAME)



L9 ANSWER 175 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:151290 CAPLUS
DOCUMENT NUMBER: 126:164341
TITLE: Ferroelectric liquid crystal composition containing optically active tetrahydropyran derivatives and liquid crystal devices
INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 08325571 | A2 | 19961210 | JP 1995-131289 | 19950530 |
| PRIORITY APPLN. INFO.: | | | JP 1995-131289 | 19950530 |
| OTHER SOURCE(S): | | | MARPAT 126:164341 | |

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A ferroelec. liquid crystal composition containing (1) R1-X1-(A-X2)n-B-X3-R (R = Q,
Q1; Rf = C1-2 fluoroalkyl; R1 = C3-20 linear or branched alkyl; R2, R3, R4 = H, C1-15 linear or branched alkyl, C2-15 linear or branched alkyl, C7-10 aralkyl; X1 = CO2, O2C, O, single bond; X2 = CO2, O2C, CH2O, OCH2, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, O2C; * denotes an asym. C atom; A, B = halo, cyano, optionally fluoroalkyl-substituted 6-membered ring-containing group; n = 0,1), (2) at least one 2-phenylpyrimidine ether derivative (I; A1 = CkH2k+1O, A2 = CmH2m+1; wherein k, m = 1-15), (2) at least one 2-phenylpyrimidine ester derivative I (A1 = CwH2w+1CO2, A2 = CvH2v+1; wherein v, w = 1-15), (3) at least one compound selected from 2-(4-biphenyl)pyrimidine derivative I (A1 = Q2, A2 = CqH2q+1; wherein p, q = 1-15), 2,5-diphenylpyrimidine ester ether derivative I (A1 = CrH2r+1O, A2 = Q3; r, s = 1-15), and 5-diphenylpyrimidine ether derivative I (A1 = CtH2t+1, A2 = Q4; t, u = 1-15), and (3) at least one Ph benzoate derivative (II; a, b = 1-15) is claimed. A liquid crystal device with above ferroelec. liquid crystal composition placed between a pair of electrode substrate is claimed. This liquid crystal composition showed ferroelec. chiral smectic C phase at a broad temperature range, excellent responsiveness owing to large spontaneous polarization of the chiral component and high speed responsiveness, and thermal stability and is suitable for display or electrooptical devices.

IT 161826-67-1
RL: TEM (Technical or engineered material use); USES (Uses)
(component of ferroelec. liquid crystal composition; ferroelec. liquid crystal composition containing optically active tetrahydropyran derivs. and phenylpyrimidine derivs. for liquid crystal devices)

RN 161826-67-1 CAPLUS
CN Heptanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI)

L9 ANSWER 176 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:151289 CAPLUS
DOCUMENT NUMBER: 126:164340
TITLE: Ferroelectric liquid crystal composition containing optically active tetrahydropyran derivatives and liquid crystal devices
INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 08325572 | A2 | 19961210 | JP 1995-137594 | 19950605 |
| PRIORITY APPLN. INFO.: | | | JP 1995-137594 | 19950605 |
| OTHER SOURCE(S): | | | MARPAT 126:164340 | |

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A ferroelec. liquid crystal composition containing (1) R1-X1-(A-X2)n-B-X3-R (R = Q,
Q1; Rf = C1-2 fluoroalkyl; R1 = C3-20 linear or branched alkyl; R2, R3, R4 = H, C1-15 linear or branched alkyl, C2-15 linear or branched alkyl, C7-10 aralkyl; X1 = CO2, O2C, O, single bond; X2 = CO2, O2C, CH2O, OCH2, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, O2C; * denotes an asym. C atom; A, B = optionally halo, cyano, or fluoroalkyl-substituted 6-membered ring-containing group; n = 0,1), (2) at least one 2-phenylpyrimidine ether derivative (I; A1 = CkH2k+1O, A2 = CmH2m+1; wherein k, m = 1-15), (2) at least one compound selected from 2-(4-biphenyl)pyrimidine derivative I (A1 = Q2, A2 = CqH2q+1; wherein p, q = 1-15), 2,5-diphenylpyrimidine ester ether derivative I (A1 = CrH2r+1O, A2 = Q3; r, s = 1-15), and 5-diphenylpyrimidine ether derivative I (A1 = CtH2t+1, A2 = Q4; t, u = 1-15), and (3) at least one Ph benzoate derivative (II; a, b = 1-15) is claimed. A liquid crystal device with above ferroelec. liquid crystal composition placed between a pair of electrode substrate is claimed. This liquid crystal composition showed ferroelec. chiral smectic C phase at a broad temperature range, excellent responsiveness owing to large spontaneous polarization of the chiral component and high speed responsiveness, and thermal stability and is suitable for display or electrooptical devices.

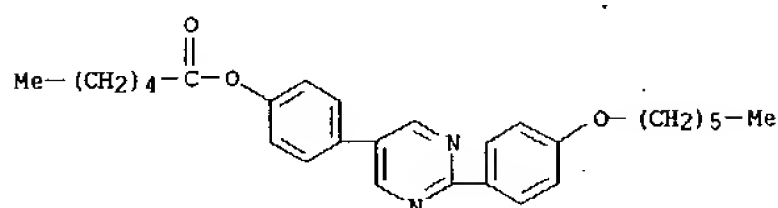
IT 186090-20-0
RL: TEM (Technical or engineered material use); USES (Uses)
(component of ferroelec. liquid crystal composition; ferroelec. liquid crystal composition containing optically active tetrahydropyran derivs. and phenylpyrimidine derivs. for liquid crystal devices)

RN 186090-20-0 CAPLUS
CN Hexanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI)
(CA INDEX NAME)

9/811, 359

09/ 835, 523

L9 ANSWER 176 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

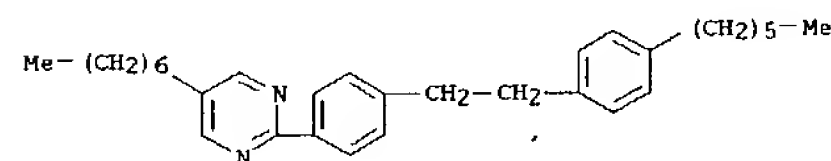


L9 ANSWER 177 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:140769 CAPLUS
DOCUMENT NUMBER: 126:150600
TITLE: Smectic liquid crystal composition with chemical stability for rapid switching display
INVENTOR(S): Scheuble, Bernhard; Bofinger, Klaus; Hopf, Reinhard; Pausch, Axel; Eidenschink, Rudolf; Krouse, Joachim; Waechtler, Andreas
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08295884 | A2 | 19961112 | JP 1996-67475 | 19960229 |

PRIORITY APPLN. INFO.: JP 1996-67475 19960229
OTHER SOURCE(S): MARPAT 126:150600

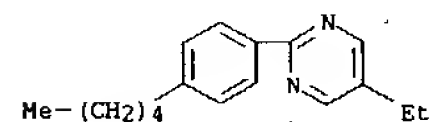
AB The title liquid crystal composition contains ≥ 1 compound of R1-A1-Z1-A2-[Z2-A3]m-R2 (R1, R2 = C1-12 alkyl; 1 of R1 and R2 is an optically active group; 1 of R1 and R2 may contain O, CO, OCO, OCO2CO2, CH:CH or may be H, F, Cl, Br, CN; A1 = combined Pyr, Phe and Cy (Pyr = pyrimidine-2,5-diyl, pyridine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl; Phe = (substituted) 1,4-phenylene; Cy = trans-1,4-cyclohexylene); A2, A3 = trans-1,4-cyclohexylene, (substituted) 1,4-phenylene; Z1 = CH2CH2, CO2, OCO, CH2O, OCH2; Z2 = CO2, OCO, CH2CH2, CH2O, OCH2; m = 0, 1) for smectic liquid crystal phase.
IT 186640-32-4
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(contained in liquid crystal composition for rapid switching display)
RN 186640-32-4 CAPLUS
CN Pyrimidine, 5-heptyl-2-[4-[2-(4-hexylphenyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 178 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:140446 CAPLUS
DOCUMENT NUMBER: 126:150657
TITLE: Nematic liquid-crystal compositions containing benzotriazole UV absorbers and antioxidants
INVENTOR(S): Shibata, Toshihiro; Kimura, Masaki; Arai, Masaharu; Murai, Toshihiko
PATENT ASSIGNEE(S): Asahi Denka Kogyo KK, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08311453 | A2 | 19961126 | JP 1995-125385 | 19950524 |

PRIORITY APPLN. INFO.: JP 1995-125385 19950524
AB Nematic liquid-crystal compns. containing benzotriazole UV absorbers and ≥ 1 antioxidant selected from phenol antioxidants, P-containing antioxidants, and thioether antioxidants. The compns. show good light and heat resistance.
IT 186668-28-0
RL: TEM (Technical or engineered material use); USES (Uses)
(mixture containing; nematic liquid-crystal compns. containing benzotriazole UV absorbers and antioxidants)
RN 186668-28-0 CAPLUS
CN Pyrimidine, 5-ethyl-2-(4-pentylphenyl)- (9CI) (CA INDEX NAME)



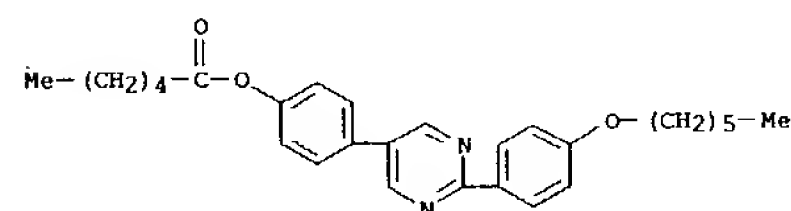
L9 ANSWER 179 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:127232 CAPLUS
DOCUMENT NUMBER: 126:137751
TITLE: Ferroelectric liquid crystal composition with wide usable temperature range and fast response time and liquid crystal element
INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
PATENT ASSIGNEE(S): Kashima Sekyu KK, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08295885 | A2 | 19961112 | JP 1995-103634 | 19950427 |

PRIORITY APPLN. INFO.: JP 1995-103634 19950427
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The ferroelec. liquid crystal composition comprises: (1) an optically active tetrahydropyran derivative represented by I and/or II (Rf = fluoroalkyl; R1 = C3-20 alkyl; R2-4 = H, C1-15 alkyl, C2-15 alkenyl, C7-10 aralkyl; X1 = COO, OCO, O; X2 = COO, OCO, CH2O, etc.; X3 = COO, CH2O, O; X4 = O, OCO; * = asym. carbon; A, B = 6-membered ring substituted by halo, cyano, F-containing alkyl; n = 0, 1); (2) ≥ 1 bicyclic phenylpyrimidine ether compound represented by III (k, m = 1-15); and (3) ≥ 1 bicyclic phenylpyrimidine ether compound represented by IV (v, w = 1-15) and ≥ 1 tricyclic phenylpyrimidine selected from V, VI, and VII (p, q, r, s, t, u = 1-15). The tetrahydropyran derivative is contained in the composition at 0.1-30%. The liquid crystal element has the above composition interposed between the pair of substrates having electrodes.
IT 186090-20-0
RL: DEV (Device component use); USES (Uses)
(ferroelec. liquid crystal composition with wide usable temperature range and fast response time and liquid crystal element)
RN 186090-20-0 CAPLUS
CN Hexanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



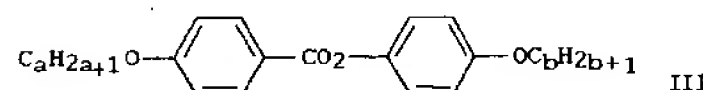
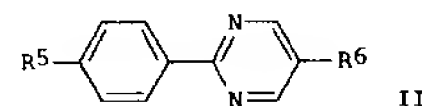
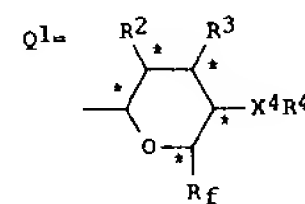
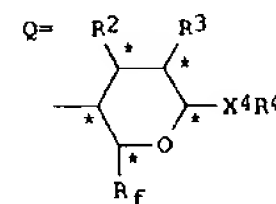
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09/035,523

L9 ANSWER 179 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

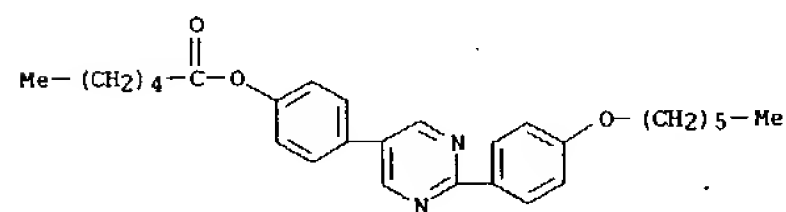
L9 ANSWER 180 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:121091 CAPLUS
 DOCUMENT NUMBER: 126:150607
 TITLE: Ferroelectric liquid crystal composition containing optically active tetrahydropyran derivatives and 2-phenylpyrimidine derivatives and liquid crystal devices
 INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08311448 | A2 | 19961126 | JP 1995-121440 | 19950519 |
| PRIORITY APPLN. INFO.: | | JP 1995-121440 19950519 | | |
| OTHER SOURCE(S): | | MARPAT 126:150607 | | |



AB A ferroelec. liquid crystal composition containing (1) optically active tetrahydropyran derivs. R1-X1-(A-X2)-B-X3-R (R = Q, Q1; Rf = C1-2 fluoroalkyl; R1 = C3-20 linear or branched alkyl; R2 - R4 = H, C1-15 linear or branched alkyl, C2-15 alkenyl, C7-10 aralkyl; X1 = CO2, O2C, O, single bond; X2 = CO2, O2C, CH2O, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, O2C; A, B = 6-membered ring-containing group optionally substituted by halo, cyano, or fluoroalkyl; * denotes an asym. C atom; n = 0,1), (2) at least one 2-phenylpyrimidine derivative (II; R5 = C6H2k+1O, R6 = C6H2m+1; k, m = 1-15), (3) at least one II (R5 = C6H2x+1, R6 = C6H2y+1; x, y = 1-18), (4) at least one II (R5 = C6H2w+1CO2, R6 = C6H2v+1; v, w = 1-15), (5) at least one compound selected from II [R5 = 4-(C6H2p+1)C6H4, R6

L9 ANSWER 180 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 = C6H2q+1; p, q = 1-15], II (R5 = C6H2t+1, R6 = C6H4(O2CC6H2n+1)-p; t, n = 1-15), and II (R5 = C6H2t+1, R6 = C6H4(C6H2u+1)-p; t, u = 1-15), and (6) at least one Ph benzoate deriv. (III; a, b = 1-15) is claimed. A liq. crystal device with above ferroelec. liq. crystal compd. placed between a pair of electrodes is claimed. This liq. crystal compn. shows ferroelec. chiral smectic C phase at a broad temp. range, fast response, large spontaneous polarization, and thermal stability. The liq. crystal device using this liq. crystal compn. is suitable for display devices and electrooptical devices.
 IT 186090-20-0
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (component for ferroelec. liquid crystal composition; ferroelec. liquid crystal composition containing optically active tetrahydropyran derivs. and phenylpyrimidine derivs. for liquid crystal devices)
 RN 186090-20-0 CAPLUS
 CN Hexanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

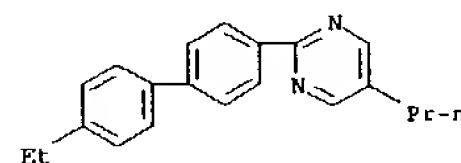


L9 ANSWER 181 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:118898 CAPLUS
 DOCUMENT NUMBER: 126:137759
 TITLE: A liquid crystal composition and liquid crystal display device
 INVENTOR(S): Sekiguchi, Yasuko; Nakagawa, Etsuo; Isoyama, Toyoshiro; Matsushita, Tetsuya
 PATENT ASSIGNEE(S): Chisso Corp, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08302354 | A2 | 19961119 | JP 1995-129682 | 19950427 |
| PRIORITY APPLN. INFO.: | | JP 1995-129682 19950427 | | |
| OTHER SOURCE(S): | | MARPAT 126:137759 | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A liquid crystal composition containing at least one difluorocyanophenol ester (I; R1 = C1-10 alkyl, C2-10 alkenyl; p = 0,1) as the first component and at least one compound selected from benzonitrile derivs. (II - VI; R2 - R6 = C1-10 alkyl or C2-10 alkenyl in which at least one CH2 group or ≥2 nonadjacent CH2 groups are optionally replaced by O; A1 = trans-1,4-cyclohexylene, 1,4-phenylene, 1,3-dioxane-2,5-diyl; A2, A3 = trans-1,4-cyclohexylene, 1,4-phenylene; Z1, Z2 = CO2, CH2CH2, single bond; Z3 = CH2CH2, single bond; Q1, Q2 = H, F; q = 0,1) as the second component is claimed. This liquid crystal composition possesses low thresh hold voltage and its small temperature dependence and high clearing point and is suitable for super-twisted nematic (STN) displays.
 IT 175859-31-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (component for liquid crystal composition; liquid crystal composition for super-twisted nematic liquid crystal display)
 RN 175859-31-1 CAPLUS
 CN Pyrimidine, 2-(4'-ethyl[1,1'-biphenyl]-4-yl)-5-propyl- (9CI) (CA INDEX NAME)



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L9 ANSWER 182 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:111131 CAPLUS
 DOCUMENT NUMBER: 126:124890
 TITLE: Liquid-crystal composition
 INVENTOR(S): Nishiyama, Shinichi; Tatsuki, Yuichirou; Fujiyama,
 Takahiro; Hirano, Chiho; Hama, Hideo; Yamanaka, Tohru
 PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan;
 Nishiyama, Shinichi; Tatsuki, Yuichirou; Fujiyama,
 Takahiro; Hirano, Chiho; Hama, Hideo; Yamanaka, Tohru
 SOURCE: PCT Int. Appl., 132 pp.
 CODEN: PIXX02
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| WO 9638513 | A1 | 19961205 | WO 1996-JP1478 | 19960531 |
| W: CA, KR, US | | | | |
| RW: DE, FR, GB, IT, NL | | | | |
| JP 09059624 | A2 | 19970304 | JP 1995-217833 | 19950825 |
| JP 09048970 | A2 | 19970218 | JP 1995-246812 | 19950831 |
| CA 2227561 | AA | 19961205 | CA 1996-222756 | 19960531 |
| EP 829526 | AB | 19980318 | EP 1996-920020 | 19960531 |
| R: DE, FR, GB, IT, NL | | | | |
| US 6007737 | A | 19991228 | US 1997-952732 | 19971125 |
| PRIORITY APPLN. INFO.: | | | JP 1995-135211 | 19950601 |
| | | | JP 1995-217833 | 19950825 |
| | | | JP 1995-246812 | 19950831 |
| | | | WO 1996-JP1478 | 19960531 |

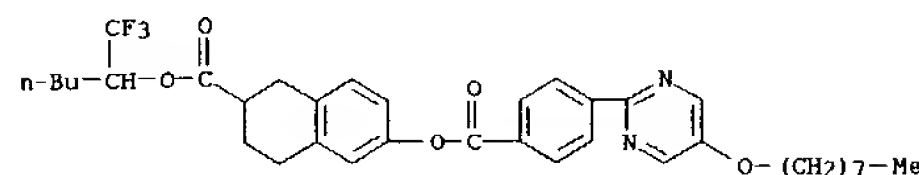
AB A smectic liquid-crystal composition according to the first embodiment is characterized in that a voltage gradation parameter $L(=SHSO)$ is less than 0.6, when a voltage is impressed upon a liquid-crystal cell that is filled with this composition and is put between a pair of polarizing plates placed at the position of crossed nicols to prepare a hysteresis curve relating to the voltage and light transmittance, and the tangent IR of the curve where the transmittance steeply increases as the voltage is impressed intersects at the point P with the tangent IF of the curve adjacent to the above curve on the high-voltage side. A liquid-crystal composition according to the second embodiment is characterized in that a parameter G as defined by the equation (B) is 0 to 0.3 (wherein S represents the area of the region surrounded by the hysteresis curve, T_{\min} represents the min. value of the transmittance, and T_0 represents the transmittance when no voltage is impressed), when the transmittance reaches the maximum value T_{\max} as the absolute value $|V|_{\min}$.

IT 186130-99-4
RL: TEM (Technical or engineered material Use); USES (Uses)
(smectic liquid crystal composition for active matrix operations)

| | | |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| RN | 186130-99-4 | CAPLUS |
| CN | 2-Naphthalenecarboxylic acid, 6-[(4'-decyl[1,1'-biphenyl]-4-yl)methoxy]- 1,2,3,4-tetrahydro-, 1-(trifluoromethyl)pentyl ester, mixt. with 1-(trifluoromethyl)pentyl 1,2,3,4-tetrahydro-6-[[4-[5-(octyloxy)-2- pyrimidinyl]benzoyl]oxy]-2-naphthalenecarboxylate (9CI) (CA INDEX NAME) | |

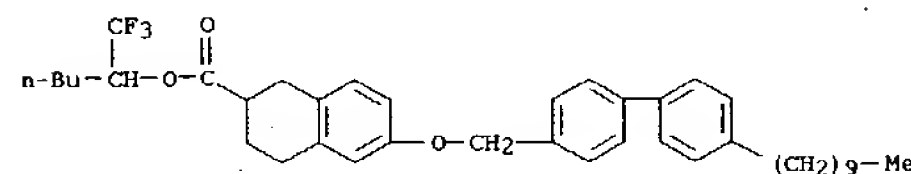
CM 1

L9 ANSWER 182 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CRN 186130-98-3
CMF C36 H43 F3 N2 O5



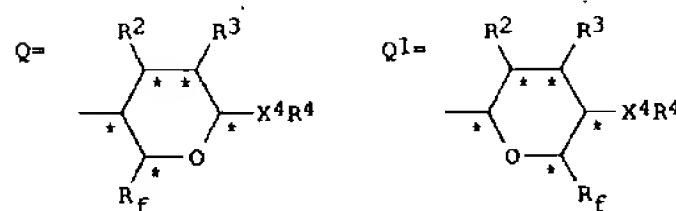
CM 2

CRN 183799-84-0
CMF C40 H51 F3 O3



L9 ANSWER 183 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:107203 CAPLUS
DOCUMENT NUMBER: 126:137760
TITLE: Ferroelectric liquid crystal composition containing
optically active tetrahydropyran derivative and
2-phenylpyrimidine derivatives and liquid crystal
device
INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi;
Takeda, Mitsunori; Murayama, Yoshinobu
PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08302350 | A2 | 19961119 | JP 1995-114148 | 19950512 |
| PRIORITY APPLN. INFO.: | | | JP 1995-114148 | 19950512 |
| GI | | | | |



AB A ferroelec. liquid crystal containing an optically active tetrahydropyran derivative R1X1(A-X2)BX3R (I; R = Q, R1 = Q, Rf = C1-2 fluoroalkyl; R1 = C3-20 linear or branched alkyl; R2, R3, R4 = H, C1-15 libra, C2-15 libra alkenyl, C7-10 aralkyl; X1 = CO2, O2C, O, single bond; X2 = CO2, O2C, CH2O, OCH2, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, O2C; * asym. C atom; A, B = halo, cyano, 6-membered ring optionally substituted by fluoroalkyl; n = 0,1) and at least each one of 2-(4-alkoxyphenyl)-5-alkylpyrimidine, 2-(4-alkylphenyl)-5-alkylpyrimidine, 2-(4-alkanoyloxyphenyl)-5-alkylpyrimidine, 2-[4-(4-alkylphenyl)phenyl]-5-alkylpyrimidine, 2-(4-alkoxyphenyl)-5-(4-alkanoyloxyphenyl)pyrimidine, and 2-(4-alkylphenyl)-5-(4-alkoxyphenyl)pyrimidine is claimed. A liquid crystal device with above liquid crystal composition sandwiched between a particle of electrodes is claimed. This liquid crystal composition has a broad temperature

range

for ferroelec. chiral smectic C phase, a large spontaneous polarization, and thermal stability, and is used at a broad temperature range and provides high speed response. It is also suitable for liquid crystal displays and electrooptical devices.

IT 186090-20-0

RL: TFM (Technical or engineered material use); USES (Uses)

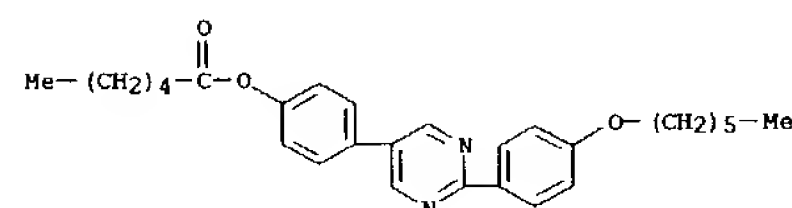
composition

containing optically active tetrahydropyran derivative and phenylpyrimidine
derivs. for liquid crystal device)

RN 186090-20-0 CAPLUS

CN Hexanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester (9CI)
 (CA INDEX NAME)

L9 ANSWER 183 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



9/811, 359

09/ 835, 523

L9 ANSWER 184 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:104951 CAPLUS
 DOCUMENT NUMBER: 126:137750
 TITLE: Ferroelectric liquid-crystal composition and liquid-crystal element using same
 INVENTOR(S): Namekawa, Masaaki; Ito, Keizo; Nayuki, Shinichi; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08269454 | A2 | 19961015 | JP 1995-78526 | 19950404 |
| PRIORITY APPLN. INFO.: | | | JP 1995-78526 | 19950404 |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The ferroelec. liquid-crystal composition comprises (a) an optically active tetrahydropyran derivative I and/or II (Rf = C1-2 fluoroalkyl; R1 = C3-20 alkyl; R2-4 = H, C1-15 alkyl, C2-15 alkenyl, C7-10 aralkyl; X1 = CO2, OCO, O, single bond; X2 = CO2, OCO, CH2O, OCH2, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, OCO; * = asym. C; A, B = halo, CN, 6-membered cyclic group; n = 0, 1), (b) a bicyclic phenylpyrimidine type ether compound III (k, m = 1-15), and (c) a tricyclic phenylpyrimidine type compound such as IV (p, q = 1-15). Also claimed is a liquid-crystal element comprising the above ferroelec. liquid-crystal composition enclosed between a pair of electrode substrates. This liquid-crystal composition shows broad operation temperature range,

and high speed response.

IT 186090-19-7
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (ferroelec. liquid-crystal composition)

RN 186090-19-7 CAPLUS

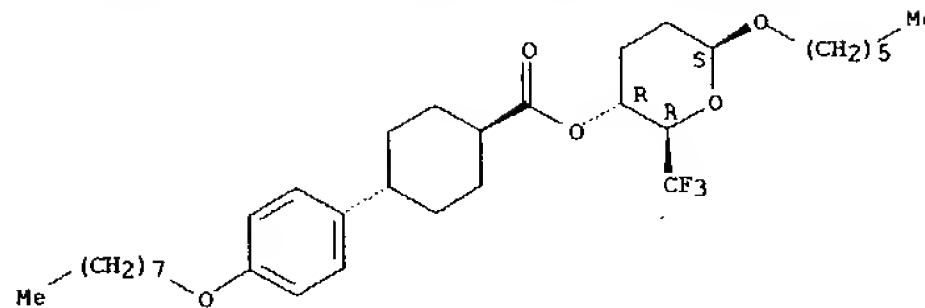
CN Cyclohexanecarboxylic acid, 4-[4-(octyloxy)phenyl]-, 6-(hexyloxy)tetrahydro-2-(trifluoromethyl)-2H-pyran-3-yl ester, [2 α ,3 β (trans),6 α]-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 186090-18-6
 CMF C33 H51 F3 O5

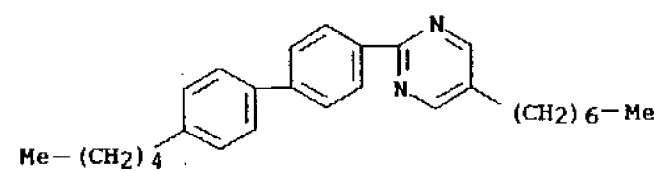
Relative stereochemistry.

L9 ANSWER 184 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



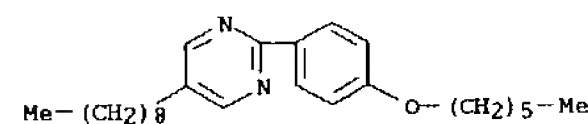
CM 2

CRN 92528-52-4
 CMF C28 H36 N2



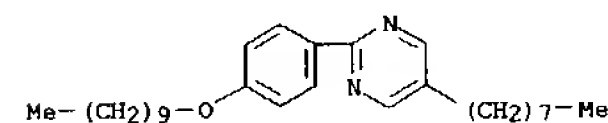
CM 3

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 4

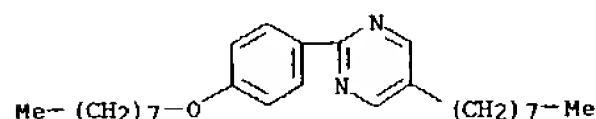
CRN 57202-52-5
 CMF C28 H44 N2 O



CM 5

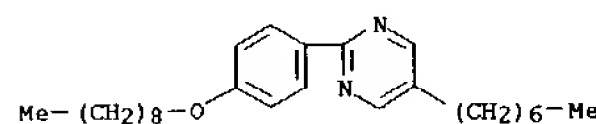
L9 ANSWER 184 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CRN 57202-50-3
 CMF C26 H40 N2 O



CM 6

CRN 57202-40-1
 CMF C26 H40 N2 O



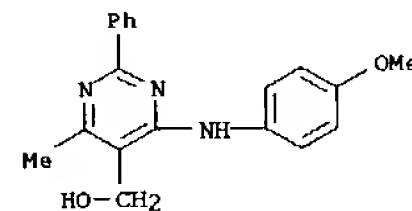
L9 ANSWER 185 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:101958 CAPLUS
 DOCUMENT NUMBER: 126:157468
 TITLE: Synthesis and biological activity of some pyrimidine derivatives
 AUTHOR(S): Pluta, J.; Flendrich, M.; Cieplik, J.
 CORPORATE SOURCE: Dep. Applied Pharmacy, School Medicine, Wroclaw, 50-137, Pol.
 SOURCE: Bollettino Chimico Farmaceutico (1996), 135(8), 459-464
 CODEN: BCFAAI; ISSN: 0006-6648
 PUBLISHER: Societa Editoriale Farmaceutica
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Some new pyrimidine derivs. were prepared and the influence of their structure (particularly, the significance of substitution at C-5) on their antibacterial properties was investigated.

IT 186804-30-8P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent) (preparation and bactericidal activity of pyrimidine derivs.)

RN 186804-30-8 CAPLUS

CN 5-Pyrimidinemethanol, 4-[(4-methoxyphenyl)amino]-6-methyl-2-phenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

5

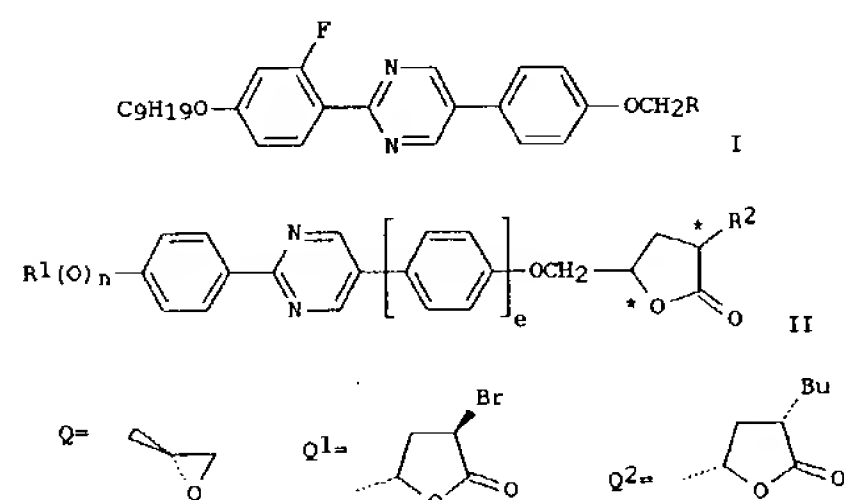
THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9/811, 359

09/835,523

L9 ANSWER 186 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:85138 CAPLUS
 DOCUMENT NUMBER: 126:164556
 TITLE: Preparation of optically active [[phenylpyrimidinylphenoxy]methyl]butyrolactone derivatives as liquid crystals and liquid crystal composition containing them
 INVENTOR(S): Kadota, Ryuji; Taguchi, Isamu; Inoe, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 08333365 | A2 | 19961217 | JP 1995-138238 | 19950605 |
| PRIORITY APPLN. INFO.: | | | JP 1995-138238 | 19950605 |
| OTHER SOURCE(S): | | MARPAT 126:164556 | | |
| GI | | | | |



AB The title compds. (I; R1, R2 = linear or branched C1-18 alkyl, C3-18 alkenyl, or C3-18 alkynyl each optionally substituted by C1-3 alkoxy or halo or optionally containing an ether bond; wherein R1, and R2 may contain a chiral C atom and the benzene rings are optionally substituted by halo, cyano, C1-5 alkyl, alkoxy, or trihaloalkyl; n, e = 0, 1; * denotes a chiral C atom), which themselves or when mixed with other liquid crystal compds. show ferroelectricity (chiral smectic C phase) with very fast response and excellent memory property and improve the temperature range of ferroelectricity, spontaneous polarization, viscosity, and respond speed, and are useful as electrooptical switching devices, are prepared. A ferroelec. chiral smectic liquid crystal composition contains said optically active compound I as a chiral dopant. Thus, a mixture of an optically active Ph glycidyl ether (II; R =

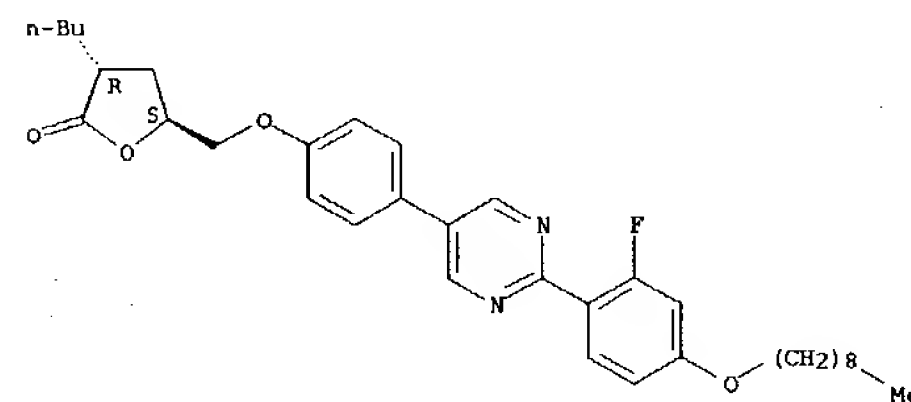
L9 ANSWER 186 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 Q) (prepn. given) 350, di-Et n-butylmalonate 862, Me3COH 209 mg, and 10 mL Me3COH was refluxed for 12 h to give 130 mg optically active trans-γ-butyrolactone II (R = Q1) and 160 mg optically active cis-γ-butyrolactone II (R = Q2). A liq. crystal cell consisting of a liq. crystal compn. contg. 2% II (R = Q2) and a mixt. of eight 2-(p-alkoxyphenyl)-5-alkylpyrimidine derivs. (98%) showed spontaneous polarization -12.7 nC/cm2, response speed 33 μs, viscosity 22 cP, and tilt angle 22°.

IT 185761-52-8
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal composition; preparation of optically active [[phenylpyrimidinylphenoxy]methyl]butyrolactone derivs. as liquid crystals)
 RN 185761-52-8 CAPLUS
 CN 2(3H)-Furanone, 3-butyl-5-[[4-[2-[2-fluoro-4-(nonyloxy)phenyl]-5-pyrimidinyl]phenoxy]methyl]dihydro-, (3R-trans)-, mixt. with 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 185761-32-4
 CMF C34 H43 F N2 O4

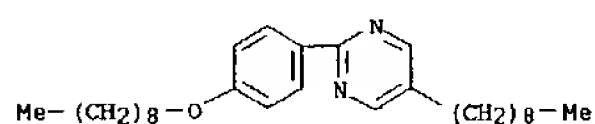
Absolute stereochemistry.



CM 2

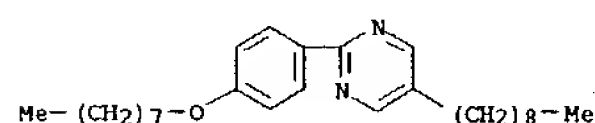
CRN 99895-85-9
 CMF C28 H44 N2 O

L9 ANSWER 186 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



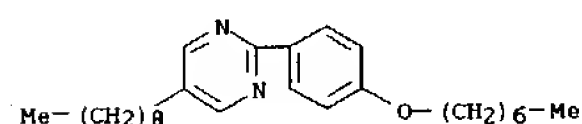
CM 3

CRN 57202-58-1
 CMF C27 H42 N2 O



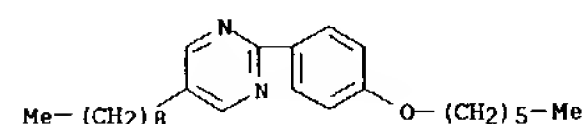
CM 4

CRN 57202-57-0
 CMF C26 H40 N2 O



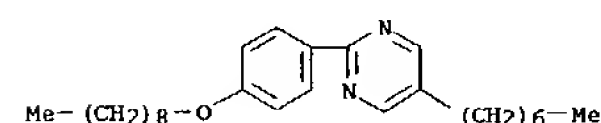
CM 5

CRN 57202-56-9
 CMF C25 H38 N2 O



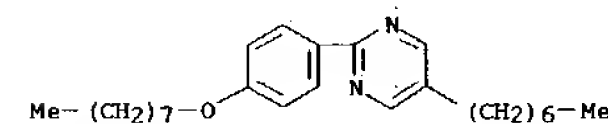
CM 6

CRN 57202-40-1
 CMF C26 H40 N2 O



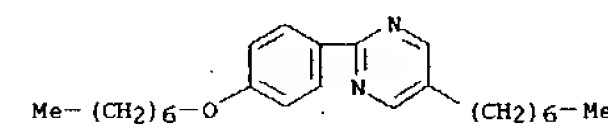
L9 ANSWER 186 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM 7

CRN 57202-39-8
 CMF C25 H38 N2 O



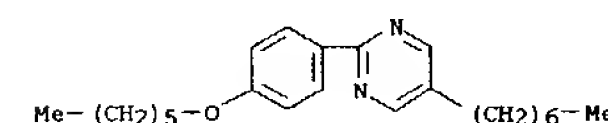
CM 8

CRN 57202-38-7
 CMF C24 H36 N2 O



CM 9

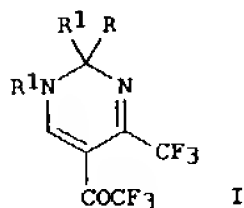
CRN 57202-37-6
 CMF C23 H34 N2 O



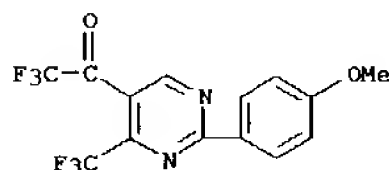
9/8/11, 359

09/ 835,523

L9 ANSWER 187 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:82403 CAPLUS
 DOCUMENT NUMBER: 126:199529
 TITLE: A facile and convenient synthetic method for fluorine-containing 1,2-dihydropyrimidines and pyrimidines
 AUTHOR(S): Okada, Etsuji; Kinomura, Tatsuhiko; Takeuchi, Hiroshi; Hojo, Masaru
 CORPORATE SOURCE: Faculty of Engineering, Kobe University, Kobe, 657, Japan
 SOURCE: Heterocycles (1997), 44, 349-356
 CODEN: HETCYM; ISSN: 0385-5414
 PUBLISHER: Japan Institute of Heterocyclic Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 126:199529
 GI



AB β,β -Bis(trifluoroacetyl)vinylamine reacted easily with various aliphatic and aromatic aldehydes RCHO (R = H, Me, Et, CHMe2, 4-MeOC6H4, Ph, etc.) in the presence of aqueous ammonia under mild conditions to give 5-trifluoroacetyl-4-trifluoromethyl-1,2-dihydropyrimidines I (R1 = H) in good yields. Dehydrogenation of I (R1 = H) with DDQ afforded the corresponding pyrimidines I (R12 = bond) in excellent yields.
 IT 187849-38-3P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of fluorinated pyrimidines)
 RN 187849-38-3 CAPLUS
 CN Ethanone, 2,2,2-trifluoro-1-[2-(4-methoxyphenyl)-4-(trifluoromethyl)-5-pyrimidinyl]- (9CI) (CA INDEX NAME)

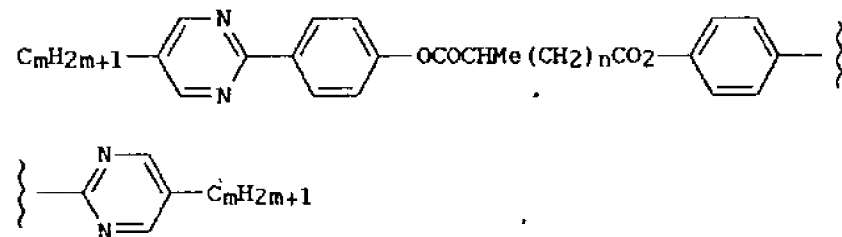


REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 189 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:61146 CAPLUS
 DOCUMENT NUMBER: 126:97293
 TITLE: Pyrimidine-substituted 2-methylalkanedecarboxylate ester, liquid crystalline optical active isomer, its composition, and manufacture of the ester
 INVENTOR(S): Yoshizawa, Atsushi; Matsuzawa, Kenji; Nishama, Isa
 PATENT ASSIGNEE(S): Japan Enajii KK, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JJOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 08291148 | A2 | 19961105 | JP 1995-115337 | 19950418 |
| PRIORITY APPLN. INFO.: | | | JP 1995-115337 | 19950418 |
| OTHER SOURCE(S): | | MARPAT 126:97293 | | |

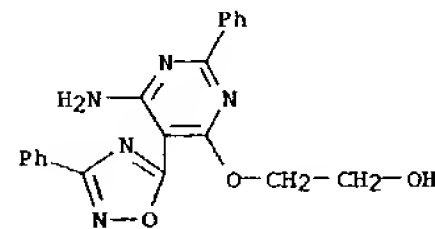
GI



AB The ester I (m = 1-18; n = 6-15), its optical active isomer having asym. center at methine, a composition containing 21 selected form the ester and isomer, and manufacture of the ester by oxidizing HICH2CHMe(CH2)nCH2OH and esterifying with 5-CmH2m+1-2-(4-hydroxyphenyl)pyrimidine are claimed. A ferroelec. composition containing the (optically active) compound showing weak spontaneous polarization associated with enough torsion is useful for display, recording material, light bulb, etc.
 IT 185459-29-4P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) ((liquid crystalline) methylalkanedecarboxylate ester with weak spontaneous polarization for ferroelec. liquid crystalline composition)
 RN 185459-29-4 CAPLUS
 CN Undecanedioic acid, 2-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (S)- (9CI) (CA INDEX NAME)

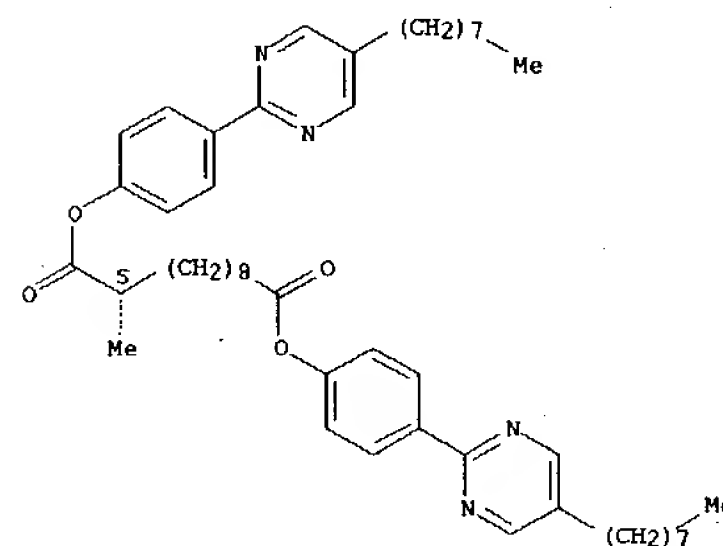
Absolute stereochemistry.

L9 ANSWER 188 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:81510 CAPLUS
 DOCUMENT NUMBER: 126:199504
 TITLE: Syntheses of 1,2,4-oxadiazole substituted pyrazole, isoxazole and pyrimidine heterocycles
 AUTHOR(S): Neidlein, Richard; Li, Sheng
 CORPORATE SOURCE: Pharm-Chem. Inst., Univ. Heidelberg, Heidelberg, D-69120, Germany
 SOURCE: Journal of Heterocyclic Chemistry (1996), 33(6), 1943-1949
 CODEN: JHTCAD; ISSN: 0022-152X
 PUBLISHER: HeteroCorporation
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Syntheses of two series of heterocyclic compds. having 1,2,4-oxadiazole, together with pyrazole, isoxazole or pyrimidine rings which have similar structures are reported.
 IT 187747-40-6P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 187747-40-6 CAPLUS
 CN Ethanol, 2-[[6-amino-2-phenyl-5-(3-phenyl-1,2,4-oxadiazol-5-yl)-4-pyrimidinyl]oxy]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 189 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

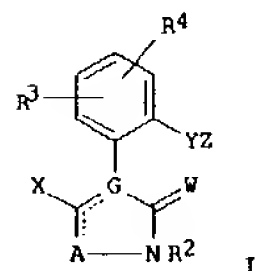


9/811,359

09/ 835,523

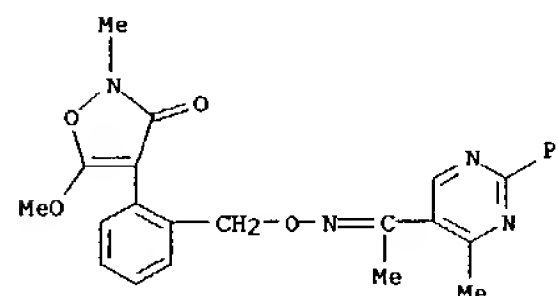
L9 ANSWER 190 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:51535 CAPLUS
 DOCUMENT NUMBER: 126:74854
 TITLE: Preparation of arylazolones as agrochemical fungicides.
 INVENTOR(S): Brown, Richard James; Sun, King-Mo; Frasier, Deborah Ann
 PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA; Brown, Richard James; Sun, King-Mo; Frasier, Deborah Ann
 SOURCE: PCT Int. Appl., 95 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9636615 | A1 | 19961121 | WO 1995-US5847 | 19950516 |
| W: JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| JP 10504042 | T2 | 19980414 | JP 1995-534772 | 19950516 |
| PRIORITY APPLN. INFO.: WO 1995-US5847 19950516 | | | | |
| OTHER SOURCE(S): MARPAT 126:74854 | | | | |
| GI | | | | |



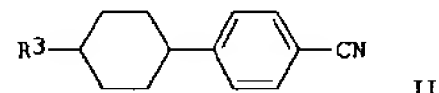
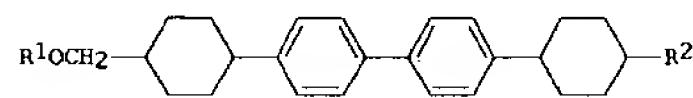
AB Title compds. [I: A = O, S, N, NR5, CR14; G = C, N; W = O, S; X = OR1, SR1, SOR1, SO2R1, halo; R1 = alkyl, haloalkyl, alkenyl, haloalkenyl, alkynyl, haloalkynyl, cycloalkyl, alkylcarbonyl, alkoxycarbonyl, (substituted) PhCO; R2, R5 = H, R1; R3, R4 = H, halo, cyano, NO2, alkyl, haloalkyl, alkenyl, haloalkenyl, alkynyl, haloalkynyl, alkoxy, haloalkoxy, alkenyloxy, alkynyloxy; Y O, S, SO, SO2, CHR6O, CHR6ON; CR7, C.tplbond.C, bond, etc.; R6 = H, alkyl; R7 = H, alkyl, haloalkyl, alkoxy, haloalkoxy, alkenyl, haloalkenyl, alkynyl, haloalkynyl, cycloalkyl, alkylcarbonyl, alkoxycarbonyl, cyano, morpholino; R14 = H, halo, alkyl, haloalkyl, alkenyl, haloalkenyl, alkynyl, haloalkynyl, cycloalkyl; Z = (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, Ph, (aromatic) heterocyclyl, etc.; with proviso], were prepared. Thus, o-tolyl isocyanate reacted with Me2NNH2 in PhMe to give 2,2-dimethyl-N-(2-methylphenyl)hydrazinecarboxamide. This was refluxed with triphosgene in CH2Cl2 to give 5-chloro-2,4-dihydro-2-methyl-4-(2-methylphenyl)-3H-1,2,4-triazol-3-one, which was converted to

L9 ANSWER 190 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 2,4-dihydro-5-methoxy-2-methyl-4-[2-[[[(phenylmethylene)amino]oxy]methyl]phenyl-3H-1,2,4-triazol-3-one. Several title compds. gave complete control of Erysiphe graminis, Puccinia recondita, and Plasmopara viticola.
 IT 185336-64-5P
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of arylazolones as agrochem. fungicides)
 RN 185336-64-5 CAPLUS
 CN 3(2H)-Isoxazolone, 5-methoxy-2-methyl-4-[2-[[[(1-(4-methyl-2-phenyl-5-pyrimidinyl)ethylidene)amino]oxy]methyl]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 191 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:44430 CAPLUS
 DOCUMENT NUMBER: 126:67606
 TITLE: Liquid-crystal composition and liquid-crystal display element using same
 INVENTOR(S): Sekiguchi, Yasuko; Nakagawa, Etsuo; Isoyama, Toshiaki; Matsushita, Tetsuya
 PATENT ASSIGNEE(S): Chisso Corp, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

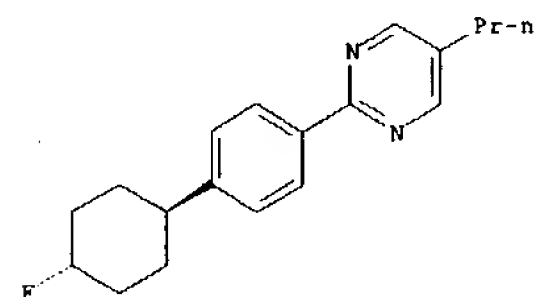
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------|------|----------|-----------------|----------|
| JP 08231960 | A2 | 19960910 | JP 1995-61756 | 19950224 |
| PRIORITY APPLN. INFO.: JP 1995-61756 19950224 | | | | |
| GI | | | | |



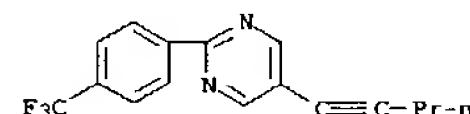
AB The liquid-crystal composition contains I (R1,2 = C1-10 alkyl), benzonitriles such as II (R3 = C2-10 alkenyl), and a liquid-crystal compound such as tolan derivs. Also claimed is a liquid-crystal display element using the above liquid-crystal composition. This display element shows fast response.

IT 183998-89-2
 RL: DEV (Device component use); USES (Uses) (liquid-crystal composition from)
 RN 183998-89-2 CAPLUS
 CN Pyrimidine, 2-[4-(4-fluorocyclohexyl)phenyl]-5-propyl-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L9 ANSWER 192 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:39667 CAPLUS
 DOCUMENT NUMBER: 126:131434
 TITLE: 5-Bromo-2-iodopyrimidine: a novel, useful intermediate in selective palladium-catalyzed cross-coupling reactions for efficient convergent syntheses
 AUTHOR(S): Goodby, John W.; Hird, Michael; Lewis, Robert A.; Toyne, Kenneth J.
 CORPORATE SOURCE: Univ. Hull, Hull, HU6 8RX, UK
 SOURCE: Chemical Communications (Cambridge) (1996), (24), 2719-2720
 CODEN: CHCOFS; ISSN: 1359-7345
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A simple synthesis of 5-bromo-2-iodopyrimidine is described and examples are provided of the use of the compound in selective palladium-catalyzed cross-coupling reactions with a wide range of arylboronic acids and alkynylzincs to give the efficient syntheses of many substituted pyrimidine compds.
 IT 183438-28-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (palladium-catalyzed cross-coupling reactions using bromiodopyrimidine)
 RN 183438-28-0 CAPLUS
 CN Pyrimidine, 5-(1-pentynyl)-2-[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



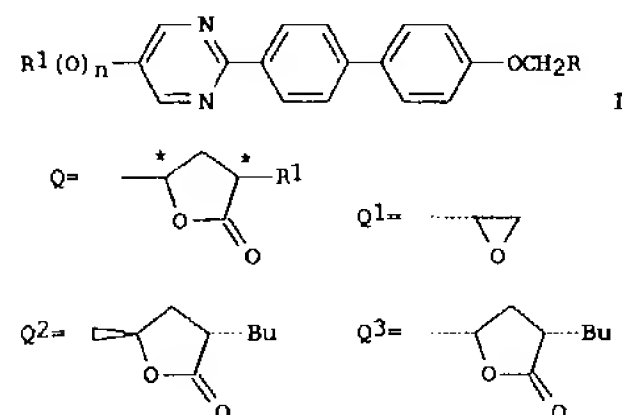
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9/811,359

09/ 835,523

L9 ANSWER 193 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:18127 CAPLUS
 DOCUMENT NUMBER: 126:82620
 TITLE: Preparation of (pyrimidinylbiphenyloxy)methyl- γ -lactone derivatives as chiral dopants and chiral smectic liquid crystal composition containing the same
 INVENTOR(S): Kadota, Ryujir; Inoe, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

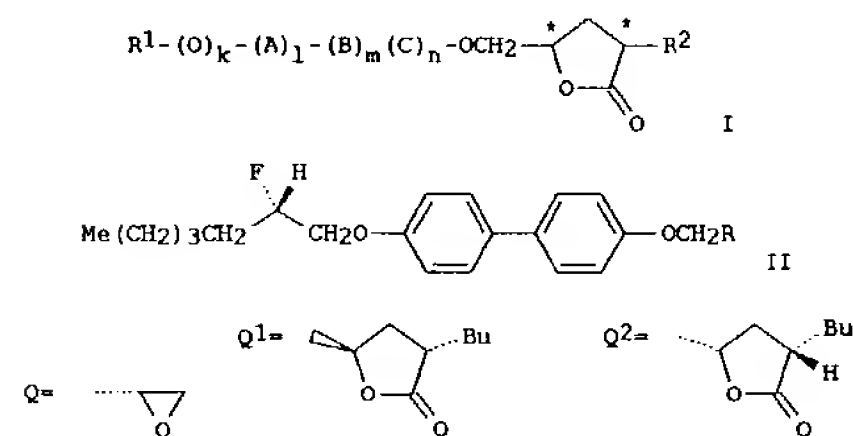
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 08269054 | A2 | 19961015 | JP 1995-76262 | 19950331 |
| PRIORITY APPLN. INFO.: | | JP 1995-76262 | 19950331 | |
| OTHER SOURCE(S): | | MARPAT 126:82620 | | |
| GI | | | | |



AB The title compds. (I; R = Q; R1, R2 = C1-18 linear or branched alkyl or C2-18 linear or branched alkenyl or alkynyl each optionally substituted by C1-3 alkoxy or halogen atoms and optionally containing an ether bond, wherein R1 and R2 optionally containing a chiral c atom; each benzene ring is optionally substituted by halo, cyano, C1-5 alkyl, alkoxy, or trihaloalkyl; n = 0,1; * denotes a chiral C atom) are prepared. These compds. alone or by mixing with other liquid crystal compound show ferroelec. chiral smectic phase, excellent memory property, very fast response speed, ferroelectricity at a broad range of temperature, and improved spontaneous polarization and viscosity and are useful for electrooptical switching devices. Thus, 1.20 g 4-[4-(5-octyl-2-pyrimidinyl)-1-phenyl]phenol was condensed with 3.05 g (R)-epichlorohydrin in the presence of Me3COK in tert-butanol at 45° for 6 h to give 1.1 g I (R = Q1, R1 = octyl, n = 0), which (209 mg) was cyclocondensed with di-Et n-butylmalonate in the presence of Me3COK in tert-butanol under reflux for 12 h to give

L9 ANSWER 194 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:18124 CAPLUS
 DOCUMENT NUMBER: 126:74731
 TITLE: Preparation of optically active 5-hydroxymethyl- γ -butyrolactone ethers as chiral smectic liquid crystals liquid crystal composition containing the same
 INVENTOR(S): Kadota, Ryujir; Watanabe, Takeo; Inoe, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

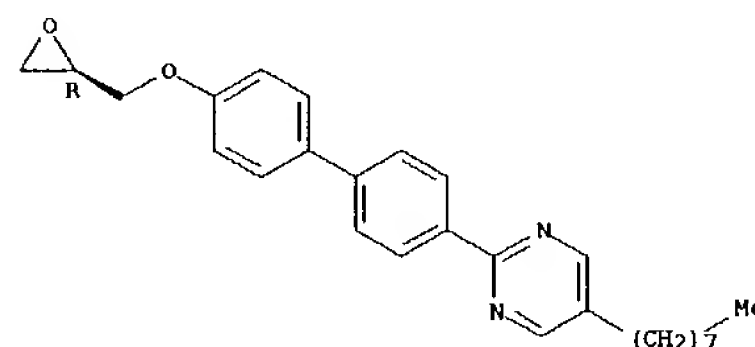
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 08269036 | A2 | 19961015 | JP 1995-76261 | 19950331 |
| PRIORITY APPLN. INFO.: | | JP 1995-76261 | 19950331 | |
| OTHER SOURCE(S): | | MARPAT 126:74731 | | |
| GI | | | | |



AB Optically active compds. having a core part and two side chains sandwiching the core, which show ferroelec. chiral smectic phase by themselves or when added to other liquid crystal compds. and are useful as chiral dopants for electrooptical switching devices, are prepared, wherein one of the side chains contains a lactone ring having 2 asym. c atoms in the ring and the other has an asym. C atoms substituted with halogen atoms. Said compds. are represented by formula [I; R1 = C1-18 linear or branched alkyl or alkoxy, C3-18 linear or branched alkenyl or alkynyl, C1-3 alkyl-C1-18 linear or branched alkyl, wherein each one of these substituents is optionally substituted by halogens and if they have optically active groups, they can be optically active or racemic groups; R2 = C1-15 linear or branched alkyl, C3-15 linear or branched alkenyl; A, B, C = X-(un)substituted 1,4-phenylene, 2,5- or 5,2-pyridinediyl, or 2,6-naphthalene, 1,4-hexylene, 2,5- or 5,2-pyrimidinediyl, 3,6-pyridazinediyl; k, l, m, n = 0,1; provided that at least one of l, m, and n = 1; X = H, halo, cyano, Me, MeO, trihalomethyl; * denotes an asym. c atom]. A ferroelec. chiral smectic liquid crystal composition, in which a chiral dopant containing said optically active compds. is added to a liquid

L9 ANSWER 193 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 γ -lactones I (R = Q2) (130 mg) and I (R = Q3) (160 mg). A ferroelec. chiral smectic liq. crystal compn. contg. 2% I (R = Q3) and a mixt. of eight 2-(p-alkoxyphenyl)-5-alkylpyrimidines (98%) showed chiral smectic C-smectic A phase transition temp. at 59°, spontaneous polarization of -7.1 cC/cm2, response speed 48 μ s, viscosity 20 cP, and tilt angle 27°.
 IT 184960-39-2F
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of (pyrimidinylbiphenyloxy)methyl- γ -lactone derivs. as chiral dopants for ferroelec. chiral smectic liquid crystal compns.)
 RN 184960-39-2 CAPLUS
 CN Pyrimidine, 5-octyl-2-[4'-(oxiranylmethoxy)[1,1'-biphenyl]-4-yl]-, (R)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

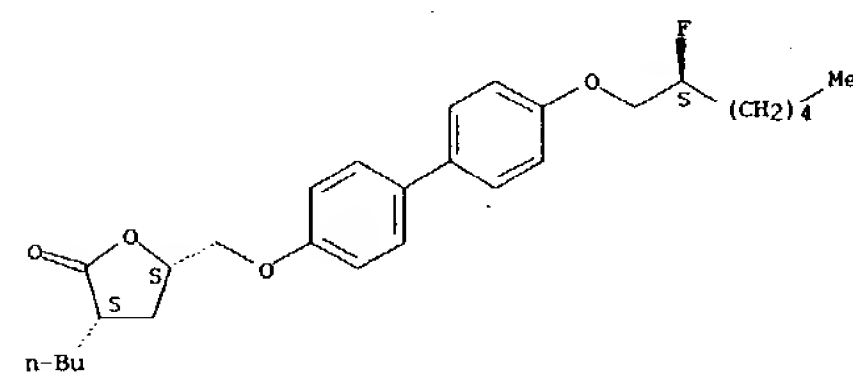


L9 ANSWER 194 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 crystal compd. having smectic C phase, is claimed. Thus, 2.09 g 4-[2(5)-fluoroheptyloxyphenyl]phenol was condensed with 6.10 g (R)-(-)-epichlorohydrin in the presence of Me3COK in tert-butanol at 45° for 6 h to give 1.70 g glycidyl ether [II; R = (R)-Q], which (373 mg) was cyclocondensed with 1.15 g di-Et n-butylmalonate in the presence of Me3COK in tert-butanol under reflux for 12 h to give γ -lactones II (R = Q1) (160 mg) and II (R = Q2) (160 mg). A chiral smectic liq. crystal compn. contg. 2% II (R = Q2) and a mixt. of eight 2-(p-alkoxyphenyl)-5-alkylpyrimidines (98%) showed chiral smectic C-smectic A phase transition at 54°, large spontaneous polarization of -5.6 nC/cm2, fast response speed of 109 μ s, viscosity 33 cP, tilt angle 19°, good uniformity of orientation, memory property, and monodomain state.
 IT 184955-67-7
 RL: TEM (Technical or engineered material use); USES (Uses)
 (preparation of optically active hydroxymethyl- γ -butyrolactone ethers as chiral smectic liquid crystals)
 RN 184955-67-7 CAPLUS
 CN 2-(3H)-Furanone, 3-butyl-5-[[[4'-(2-fluoroheptyl)oxy][1,1'-biphenyl]-4-yl]oxy]methyl]dihydro-, [3S-[3 α ,5 α (R*)]]-, mixt. with 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 184955-43-9
 CMF C28 H37 F O4

Absolute stereochemistry.



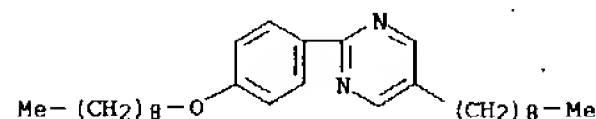
CM 2

CRN 99895-85-9
 CMF C28 H44 N2 O

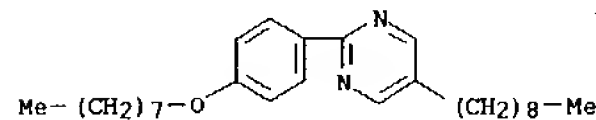
097 835,523

9/811,359

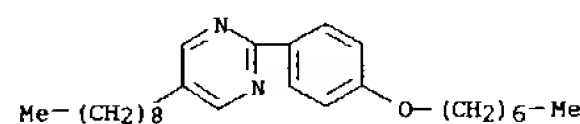
L9 ANSWER 194 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



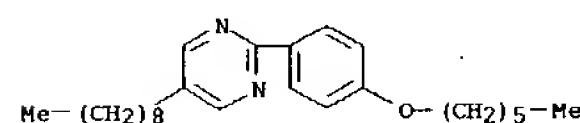
CM 3
CRN 57202-58-1
CMF C27 H42 N2 O



CM 4
CRN 57202-57-0
CMF C26 H40 N2 O



CM 5
CRN 57202-56-9
CMF C25 H38 N2 O



CM 6
CRN 57202-40-1
CMF C26 H40 N2 O

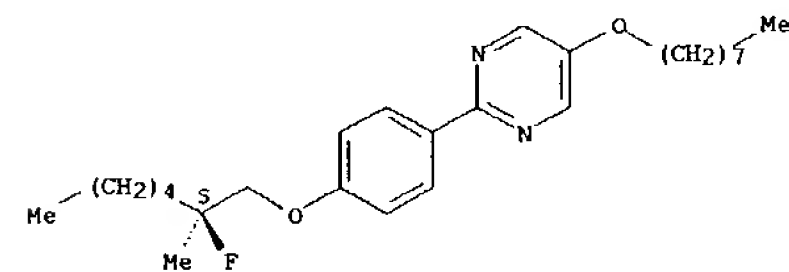
L9 ANSWER 195 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:9853 CAPLUS
DOCUMENT NUMBER: 126:164334
TITLE: Liquid crystal compounds containing chiral 2-halo-2-methyl ether and ester tails
INVENTOR(S): Thurmes, William N.; Wand, Michael D.; More, Kundalika M.
PATENT ASSIGNEE(S): Displaytech, Inc., USA
SOURCE: U.S., 20 pp., Cont.-in-part of U.S. 5,453,216.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 5585036 | A | 19961217 | US 1995-461377 | 19950605 |
| US 5051506 | A | 19910924 | US 1988-164233 | 19880304 |
| US 5422037 | A | 19950606 | US 1993-6263 | 19930119 |
| US 5453218 | A | 19950926 | US 1994-193254 | 19940208 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | US 1988-164233 | A2 19880304 |
| | | | US 1993-6263 | A2 19930119 |
| | | | US 1994-193254 | A2 19940208 |
| | | | US 1990-556161 | A2 19900720 |

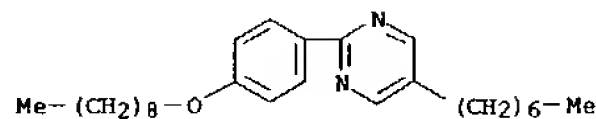
OTHER SOURCE(S): MARPAT 126:164334
AB This invention provides chiral nonracemic compds. of general formula $R_1XAOZC^*F(CH_3)R_2$, wherein Z is a CO or CH2 group, R1 is a partially or fully fluorinated alkyl or alkenyl group, R2 is an alkyl, alkenyl, or alkynyl group in which one or more CH2 groups can optionally be substituted with one or two halogen atoms or in which one or more non-adjacent CH2 groups can be replaced with an O or S group or an alkylsilyl group, SiR3R4, in which R3 and R4 are alkyl or alkenyl groups having from one to six carbon atoms, * indicates the chiral carbon, and A is an aromatic ring liquid crystal core moiety, and useful as components of ferroelec. liquid crystal compns. in electrooptical display devices.

IT 172025-78-4
RL: TEM (Technical or engineered material use); USES (Uses) (electrooptical display devices using liquid crystal compns. containing)
RN 172025-78-4 CAPLUS
CN Pyrimidine, 2-[4-[(2-fluoro-2-methylheptyl)oxy]phenyl]-5-(octyloxy)-, (S)- (9CI) (CA INDEX NAME)

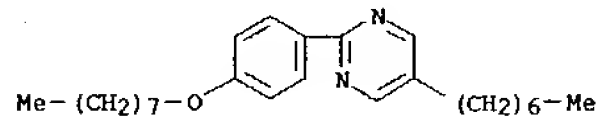
Absolute stereochemistry.



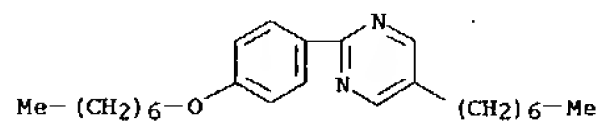
L9 ANSWER 194 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



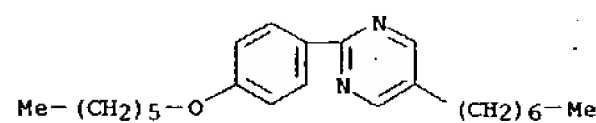
CM 7
CRN 57202-39-8
CMF C25 H38 N2 O



CM 8
CRN 57202-38-7
CMF C24 H36 N2 O



CM 9
CRN 57202-37-6
CMF C23 H34 N2 O

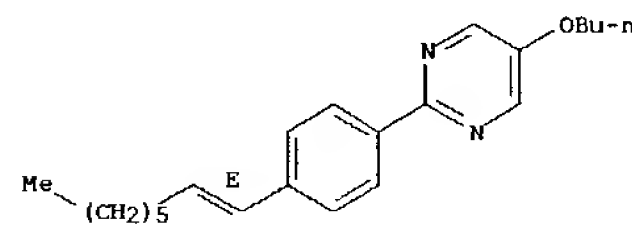


L9 ANSWER 196 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:753429 CAPLUS
DOCUMENT NUMBER: 126:24895
TITLE: Optically active compound, liquid-crystal composition containing it, and device using it
INVENTOR(S): Sekine, Chizu; Endo, Tomoaki; Fujisawa, Koichi
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 08245437 | A2 | 19960924 | JP 1995-51095 | 19950310 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | JP 1995-51095 | 19950310 |
| AB The compound has ACR1R2R3 [A = (substituted) divalent 6-membered group-containing part; R1-3 = H, F, (F-substituted) alkyl, (F-substituted) alkoxy, OH], where only one conformation has the highest existence of the most stable structure obtained by rotating the mol. using a bond of chiral C and A as an axis and its existence is ≥ 2 -times higher than that of the 2nd highest existence. The composition and the device contain the compound. The composition showed high spontaneous polarization. | | | | |
| IT 184354-95-8 | | | | |
| RL: DEV (Device component use); USES (Uses) (optically active compound for chiral dopant of liquid-crystal device with high spontaneous polarization) | | | | |
| RN 184354-95-8 CAPLUS | | | | |
| CN Benzenemethanol, 4-[5-(decyloxy)-2-pyrimidinyl]- α -methyl-, mixt. with (E)-5-butoxy-2-[4-(1-octenyl)phenyl]pyrimidine, (E)-5-(decyloxy)-2-[4-(1-heptenyl)phenyl]pyrimidine and (E)-5-(decyloxy)-2-[4-(1-nonenyl)phenyl]pyrimidine (9CI) (CA INDEX NAME) | | | | |

CM 1
CRN 167543-04-6
CMF C22 H30 N2 O

Double bond geometry as shown.



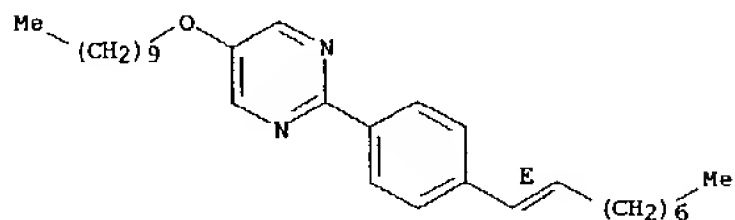
CM 2
CRN 167542-97-4
CMF C29 H44 N2 O

Double bond geometry as shown.

9/811, 359

409/835,523

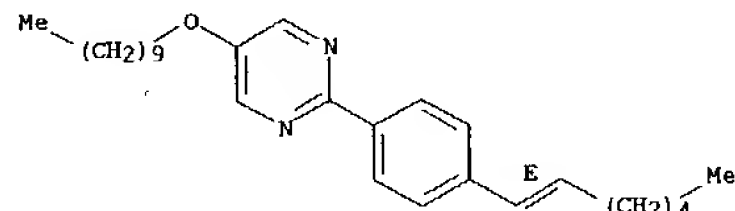
L9 ANSWER 196 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



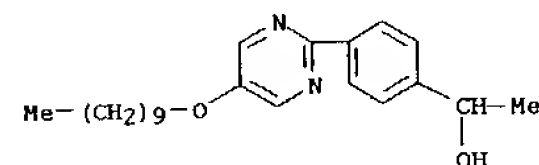
CM 3

CRN 167542-79-2
CMF C27 H40 N2 O

Double bond geometry as shown.



CM 4

CRN 130079-68-4
CMF C22 H32 N2 O2

L9 ANSWER 198 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:739039 CAPLUS
DOCUMENT NUMBER: 126:110951
TITLE: UV curable liquid crystals and their application
AUTHOR(S): Takatsu, H.; Hasebe, H.
CORPORATE SOURCE: Dainippon Ink and Chem., Inc., Saitama, 362, Japan
SOURCE: Materials Research Society Symposium Proceedings (1996), 425 (Liquid Crystals for Advanced Technologies), 293-304
CODEN: MRSPDH; ISSN: 0272-9172

PUBLISHER: Materials Research Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Some classes of liquid crystalline monoacrylates having no methylene spacers in a side chain have been prepared. The liquid crystalline monoacrylates have effects to

reduce the driving voltage and the hysteresis for the light scattering display of Polymer Network liquid crystals prepared by photopolymerization-induced phase separation. By photopolymerization of a chiral monoacrylate monomer in a nematic liquid crystalline host including a black dichroic dye, a polarizer free reflective Spiral Polymer Aligned Nematic (SPAN) Guest Host (GH) LCD exhibiting a low driving voltage has been fabricated. The effect of the spiral polymers made of some kinds of chiral monoacrylates for a Super Twisted Nematic (STN) LCD using SPAN liquid crystals is discussed.

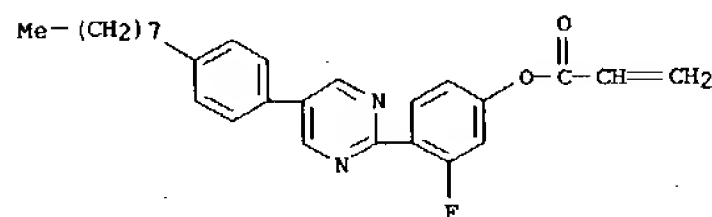
UV-curable liquid crystals showing nematic phases at room temperature have been developed. By in situ photopolymerization, the UV-curable liquid crystals can be utilized for the retardation film with high quality and good thermal stability. The fabrication of various kinds of retardation film using the UV-curable liquid crystals is discussed. UV-curable liquid crystals having isotropic-nematic-smectic A phase sequence have been developed and the photopolymerization at the state of their uniaxially oriented smectic A phases at room temperature is discussed. To polymerized film is optically uniaxial and transparent without light scattering.

IT 185025-52-9

RL: TEM (Technical or engineered material use); USES (Uses)
(UV curable liquid crystals and their application for display)

RN 185025-52-9 CAPLUS

CM 2-Propenoic acid, 3-fluoro-4-[5-(4-octylphenyl)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 197 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:748326 CAPLUS
DOCUMENT NUMBER: 126:24883
TITLE: Process for producing ferroelectric liquid-crystal display device
INVENTOR(S): Yamaguchi, Hidemasa; Nonaka, Toshiaki; Li, Kei; Takeichi, Ayako
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| EP 737881 | A2 | 19961016 | EP 1996-104912 | 19960328 |
| EP 737881 | A3 | 19971229 | | |

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08286190 | A2 | 19961101 | JP 1995-109012 | 19950410 |
| US 5880804 | A | 19990309 | US 1996-629582 | 19960409 |

PRIORITY APPLN. INFO.: JP 1995-109012 19950410
AB An improved method for achieving a defect-free and uniform liquid crystal alignment in a process for the production of a ferroelectric liquid-crystal display device. A process for producing a ferroelectric liquid crystal showing at least an N* phase and an SmC* phase and an organic polymer film or an obliquely vapor-deposited film of an inorganic substance serving as an alignment layer is provided by aligning the liquid crystal by cooling the liquid crystal once to a temperature region of a phase which resides in the lower temperature region than the N* phase and then heating it to a temperature region

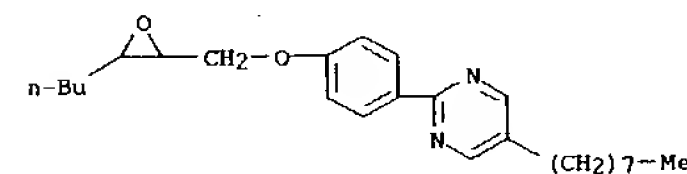
of an N* phase or by aligning the liquid crystal by applying an electric field in the N* phase.

IT 154631-40-0

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electrooptical display devices using ferroelectric liquid crystal compounds containing)

RN 154631-40-0 CAPLUS

CM Pyrimidine, 2-[4-[(3-butyloxy)phenyl]methoxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)



L9 ANSWER 199 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:729481 CAPLUS
DOCUMENT NUMBER: 125:331442
TITLE: Preparation of polyamic acid solution for spinning of fibers

INVENTOR(S): Mikhajlov, Gennadij M.; Korzhavin, Leonid N.; Kudryavtsev, Vladislav V.; Koton, Mikhail M.; Matichcheva, Tamara A.; Ivanova, Marina A.; Bobrova, Natalya V.; Bronnikov, Sergej V.; Grigoreva, Nina A.; Et, Al.

PATENT ASSIGNEE(S): Institut Vysokomolekulyarnykh Soedinenii RAN, Russia; Novosibirskii Institut Organicheskoi Khimii So RAN; Aktsionernoe Obshchestvo "Nauchno-Issledovatel'skii Institut Khimicheskikh Volokon i Kompozitsionnykh Materialov S Eksperimentalnym Zavodom"

SOURCE: Russ. From: Izobreteniya 1996, (17), 191.

CODEN: RUXXE7

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| RU 2062276 | C1 | 19960620 | RU 1991-4917791 | 19910307 |
| | | | SU 1991-4917791 | 19910307 |

PRIORITY APPLN. INFO.: Title only translated.

AB 183873-27-0, 2,5-Bis(p-aminophenyl)pyrimidine-3,3',4,4'-diphenyl oxide tetracarboxylic dianhydride-p-phenylenediamine copolymer

IT 183873-27-0, 2,5-Bis(p-aminophenyl)pyrimidine-3,3',4,4'-diphenyl oxide tetracarboxylic dianhydride-p-phenylenediamine copolymer
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyamic acid solution for spinning of fibers)

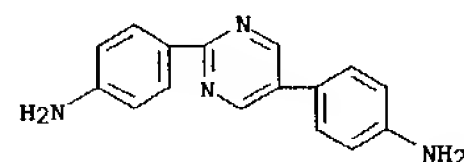
RN 183873-27-0 CAPLUS

CM 1,3-Isobenzofurandione, 5,5'-oxybis-, polymer with 1,4-benzenediamine and 4,4'-(2,5-pyrimidinediyl)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 102570-64-9

CMF C16 H14 N4



CM 2

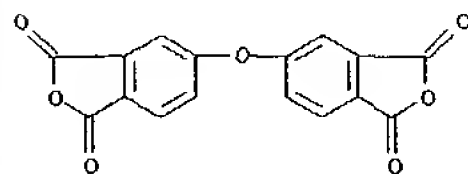
CRN 1823-59-2

CMF C16 H6 O7

9/811, 359

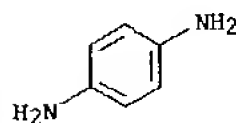
09/ 835,523

L9 ANSWER 199 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM (Continued)



CM 3

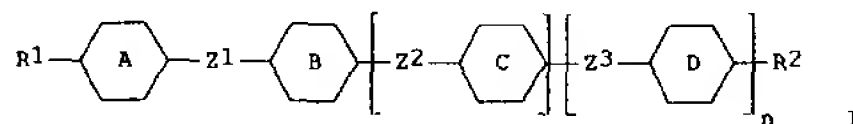
CRN 106-50-3
CMF C6 H8 N2



L9 ANSWER 200 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM

ACCESSION NUMBER: 1996:724140 CAPLUS
DOCUMENT NUMBER: 125:343103
TITLE: Optically active liquid crystal compound containing deuterium atoms for display device
INVENTOR(S): Koizumi, Yasuyuki; Demus, Dietrich; Matsui, Shuichi; Miyazawa, Kazutoshi; Sekiguchi, Yasuko; Nakagawa, Etsuo
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: Eur. Pat. Appl., 88 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------|------|----------|-----------------|----------|
| EP 735015 | A2 | 19961002 | EP 1996-300655 | 19960130 |
| EP 735015 | A3 | 19970611 | | |
| R: CH, DE, FR, GB, IT, LI | | | | |
| JP 08325174 | A2 | 19961210 | JP 1995-347773 | 19951214 |
| PRIORITY APPLN. INFO.: JP 1995-100105 19950331 | | | | |
| OTHER SOURCE(S): MARPAT 125:343103 | | | | |
| GI | | | | |

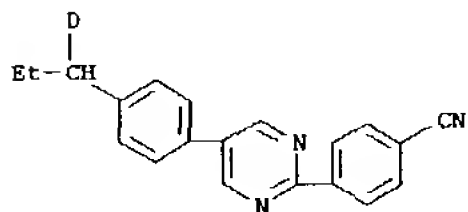


AB The title compound is represented by the formula I (R1, R2 = H, cyano, halogen, or alkyl or halogenated alkyl with 1-20 C atoms with the proviso that ≥ 1 methylene group in the alkyl group may be substituted by O, S, CH=CH, C.tplbond.C, CO, CF=CF, CF2, or a cycloalkane or cycloalkene ring with 3-5 C atoms; Z1-3 = a covalent bond or an alkylene group with 1-4 C atoms with the proviso that ≥ 1 methylene group in the alkylene group may be substituted by O, S, CH=CH, C.tplbond.C, CO, CF=CF, CF2, or a cycloalkane or cycloalkene ring with 3-5 C atoms; m, n = 0 or 1; rings A, B, C, D = a benzene, bicyclo[1.1.1]pentane, bicyclo[2.1.1]hexane, bicyclo[2.2.1]heptane, bicyclo[2.2.2]octane, naphthalene, 1,2,3,4-tetrahydronaphthalene, perhydronaphthalene, fluorene, phenanthrene, 9,10-dihydrophenanthrene, indane, indene, cycloalkane, or cycloalkene ring which may be substituted by O, S, or N atoms) with optically active C atoms bonded to D atoms. With the use of the title compound, it is possible to prepare a liquid crystal composition with controlled pitch and spiral direction without the use of a chiral dopant.

IT 183848-61-5P
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation and use in liquid crystal comps. for electrooptical display devices)

RN 183848-61-5 CAPLUS

L9 ANSWER 200 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM (Continued)
CN Benzonitrile, 4-[5-[4-(propyl-1-d)phenyl]-2-pyrimidinyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 201 OF 573 CAPLUS COPYRIGHT 2004 ACS on STM

ACCESSION NUMBER: 1996:716130 CAPLUS
DOCUMENT NUMBER: 125:343084
TITLE: Liquid crystalline allene for optical display element
INVENTOR(S): Siemensmeyer, Karl; Tschierske, Carsten; Zab, Kerstin
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

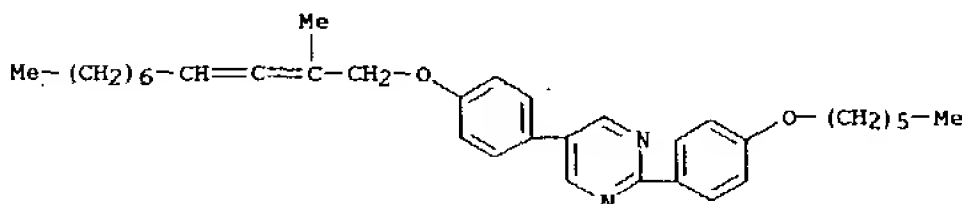
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------|------|----------|------------------|----------|
| EP 735125 | A2 | 19961002 | EP 1996-104699 | 19960325 |
| EP 735125 | A3 | 19970723 | | |
| R: CH, DE, FR, GB, LI, NL | | | | |
| DE 19511448 | A1 | 19961002 | DE 1995-19511448 | 19950330 |
| US 5695681 | A | 19971209 | US 1996-624918 | 19960327 |
| JP 08337777 | A2 | 19961224 | JP 1996-77389 | 19960329 |
| PRIORITY APPLN. INFO.: DE 1995-19511448 19950330 | | | | |
| OTHER SOURCE(S): MARPAT 125:343084 | | | | |

AB The title allene is represented by a general formula MX1C(R1):C:CR2R3 [M = mesogen group; R1, R2 = H, C1-8 organic residue; R3 = C1-30 organic residue; X1 = -(CH2)qO(CH2)p-, -(CH2)qNR4(CH2)p-, -(CH2)qCOO(CH2)p-, -(CH2)qOCO(CH2)p-, -(CH2)qCONR4(CH2)p-, -(CH2)qNR4CO(CH2)p-; R4 = H, C1-4 alkyl; p = 1-20; q = 0-20]. The allene compds. can be used for optical display elements.

IT 176678-90-3P
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of liquid crystalline allene)

RN 176678-90-3 CAPLUS

CN Pyrimidine, 2-[4-(hexyloxy)phenyl]-5-[4-[(2-methyl-2,3-undecadienyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



09/835,523

9/811, 359

L9 ANSWER 202 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:716115 CAPLUS
DOCUMENT NUMBER: 125:343077
TITLE: Optically active compound for liquid-crystal composition and liquid-crystal element
INVENTOR(S): Nohira, Hiroyuki; Nagashima, Yutaka; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

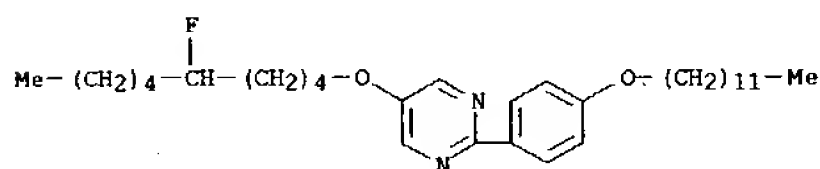
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08220500 | A2 | 19960830 | JP 1995-45076 | 19950210 |

PRIORITY APPLN. INFO.: JP 1995-45076 19950210

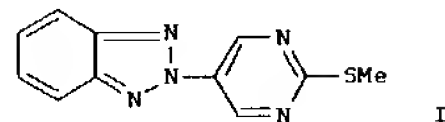
AB The optically active compound has the formula $C_mH_{2m+1}C^*HF(CH_2)_4-X_1-A_1-R_1$ [R1 = H, halo, CN, C1-18 alkyl; A1 = -A2-, -A2X2A3-, -A2X2A3X3A4-; A2-4 = 1,4-phenylene, pyridine-2,5-diyl, 1,4-cyclohexylene, thiophene-2,5-diyl, thiazole-2,5-diyl, thiadiazole-2,5-diyl, 2,6-naphthylene, benzothiazole-2,6-diyl, benzoxazole-2,5-diyl; X1 = O, COC; X2,3 = single bond, CO2, OCO; m = 1-16; * = optically active C]. Also claimed is a liquid-crystal composition containing the above compound, and a liquid-crystal element comprising the liquid-crystal composition enclosed between a pair of electrode substrates. This ferroelec. liquid-crystal element gives high speed response.

IT 183604-52-6
RL: DEV (Device component use); USES (Uses)
(optically active compound for liquid-crystal composition)

RN 183604-52-6 CAPLUS
CN Pyrimidine, 2-[4-(dodecyloxy)phenyl]-5-[(5-fluorodecyl)oxy]- (9CI) (CA INDEX NAME)



L9 ANSWER 203 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:702555 CAPLUS
DOCUMENT NUMBER: 126:31323
TITLE: Chemistry and nonlinear optical properties of new 2H-benzotriazole derivatives
AUTHOR(S): Gompper, Rudolf; Walther, Peter
CORPORATE SOURCE: Inst. Organische Chemie, Univ. Muenchen, Munich, D-80333, Germany
SOURCE: Tetrahedron (1996), 52(46), 14607-14624
CODEN: TETRAE; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



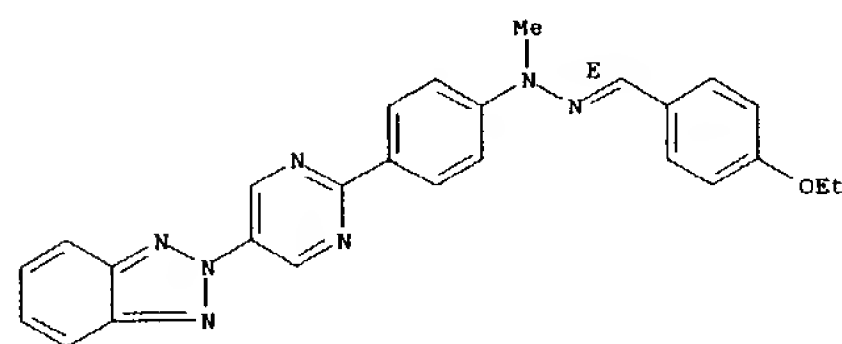
AB A 2H-benzotriazolyl group was introduced as a new electron-withdrawing group for non-linear optically-active chromophores. Novel benzotriazole derivs. and hydrazones were synthesized. While their electronic structure and acceptor capability was comparable to those of structurally related nitro compds., 2H-benzotriazoles showed a more favorable transparency-non-linearity trade-off for non-linear optics applications. An example compound was 2-[2-[2-(methylthio)-4-pyrimidinyl]ethenyl]-2H-benzotriazole (I). The first mol. hyperpolarizabilities β were measured with hyper-Raleigh scattering (HRS).

IT 184245-54-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and chemical and nonlinear optical properties of 2H-benzotriazole derivs.)

RN 184245-54-3 CAPLUS
CN Benzaldehyde, 4-ethoxy-, [4-[5-(2H-benzotriazol-2-yl)-2-pyrimidinyl]phenyl]methylhydrazone, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

L9 ANSWER 203 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 204 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:694178 CAPLUS
DOCUMENT NUMBER: 125:312579
TITLE: Liquid crystal compound for optical information display
INVENTOR(S): Meyer, Frank; Siemensmeyer, Karl
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Ger. Offen., 13 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|------------------|----------|
| DE 19510892 | A1 | 19960926 | DE 1995-19510892 | 19950324 |

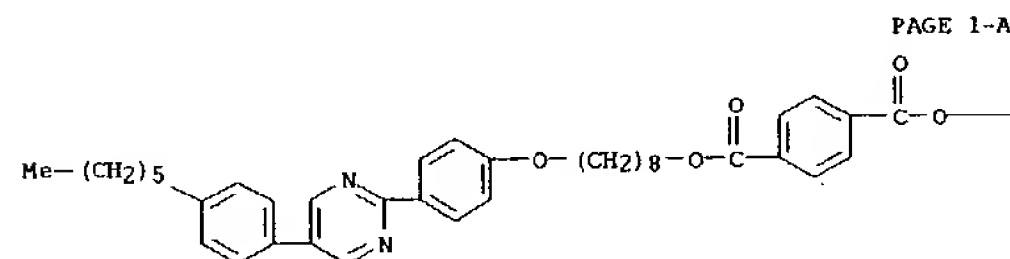
PRIORITY APPLN. INFO.: DE 1995-19510892 19950324

OTHER SOURCE(S): MARPAT 125:312579

AB The liquid crystal compound is represented by a general formula $X(-Y-A-Y-M-Y-B)_n$ [X = aliphatic, aromatic or alkenyl-alkynyl, cycloaliph. residual; n = 2, 4, 5; Y = single bond; -COO-, -OCO-, -O-, -CONH-, -CON(R)-; R = C1-4 alkyl; A = spacer; M = mesogenic group; B = side chain]. The liquid crystal compound is useful for light-reflection-type displays.

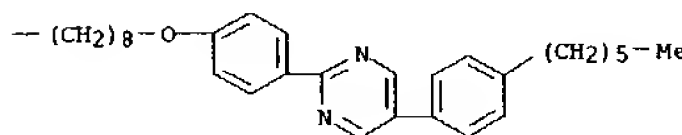
IT 183295-07-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of liquid crystal compound for liquid crystal display)

RN 183295-07-0 CAPLUS
CN 1,4-Benzenedicarboxylic acid, bis[8-[4-[5-(4-hexylphenyl)-2-pyrimidinyl]phenoxy]octyl] ester (9CI) (CA INDEX NAME)



PAGE 1-A

PAGE 1-B



9/811, 359

09/ 835, 523

L9 ANSWER 205 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:693726 CAPLUS
 DOCUMENT NUMBER: 125:343192
 TITLE: Ferroelectric liquid-crystal display device with epoxy compound
 INVENTOR(S): Nagase, Takamitsu; Watanabe, Ryusuke
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JXXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08211413 | A2 | 19960820 | JP 1995-16248 | 19950202 |
| PRIORITY APPLN. INFO.: | | | JP 1995-16248 | 19950202 |

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The device comprises an electrode-coated pair of substrates sandwiching a ferroelec. liquid crystal composition with 0.1-10% epoxy compound (≥ 2 divalent epoxy groups), no epoxy crosslinking agent, and resistivity $\geq 10^8 \Omega\text{-cm}$ at room temperature. The epoxy compound may be I, II, and/or III. The device shows long-lasting stability of excellent display.

IT 183241-93-2
 RL: POF (Polymer in formulation); USES (Uses)
 (ferroelec. liquid-crystal display device containing epoxy compound with long-lasting stability)

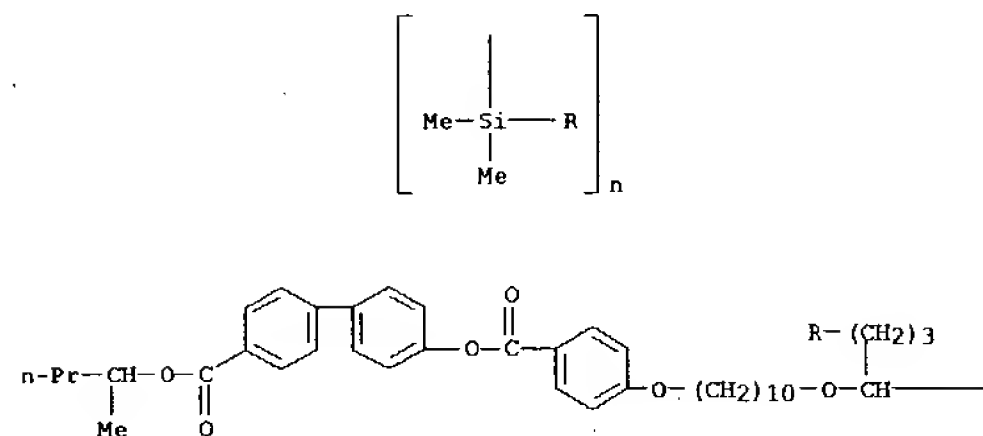
RN 183241-93-2 CAPLUS
 CN Butanoic acid, 3-methyl-, 8-[4-(5-decyl-2-pyrimidinyl)phenoxy]octyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and poly[oxy(dimethylsilylene)] [4-[[10-[4-[[[4'-[(1-methylbutoxy)carbonyl][1,1'-biphenyl]-4-yl]oxy]carbonyl]phenoxy]decyl]oxy]-1,7-heptanediyl] (dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

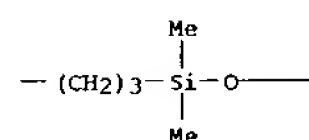
CRN 155387-62-5
 CMF (C46 H68 O7 Si2)n
 CCI PMS

L9 ANSWER 205 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A

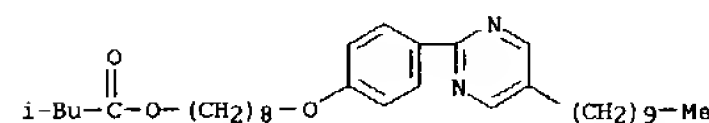


PAGE 1-B



CM 2

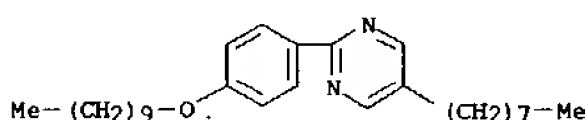
CRN 155167-16-1
 CMF C33 H52 N2 O3



L9 ANSWER 205 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

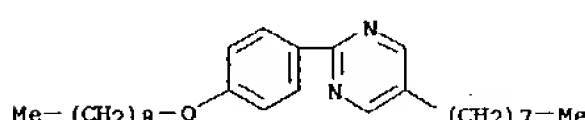
CM 3

CRN 57202-52-5
 CMF C28 H44 N2 O



CM 4

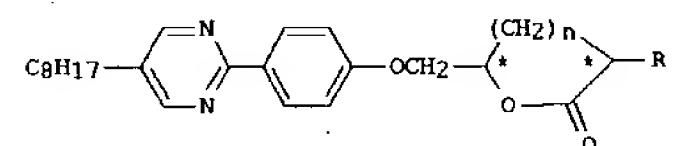
CRN 57202-51-4
 CMF C27 H42 N2 O



L9 ANSWER 206 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:688794 CAPLUS
 DOCUMENT NUMBER: 125:312657
 TITLE: Optical active compound and liquid crystal composition containing it
 INVENTOR(S): Kadota, Ryuji; Inoue, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JXXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 08211352 | A2 | 19960820 | JP 1995-15416 | 19950201 |
| PRIORITY APPLN. INFO.: | | | JP 1995-15416 | 19950201 |
| OTHER SOURCE(S): | | MARPAT 125:312657 | | |

GI

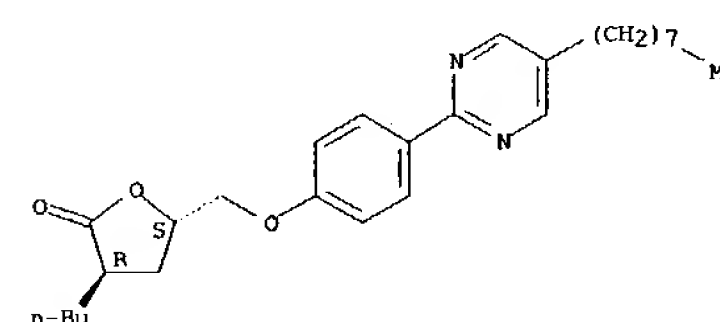


AB An optical active compound I (R = Pr, Bu; n = 1-2) and a liquid crystal composition containing ≥ 1 of I are claimed. A ferroelec. chiral smectic liquid crystal composition comprises a liquid crystal compound or composition with smectic C (ferroelec.) phase and a chiral dopant containing ≥ 1 of I. Liquid crystal composition containing I shows ferroelec. properties with rapid response and good memory.

IT 183247-01-0P
 RL: DEV (Device component use); IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
 (liquid crystal composition containing pyrimidine lactone compound as chiral dopant)

RN 183247-01-0 CAPLUS
 CN D-erythro-Pentonic acid, 2-butyl-2,3-dideoxy-5-O-[4-(5-octyl-2-pyrimidinyl)phenyl]-, γ -lactone (9CI) (CA INDEX NAME)

Absolute stereochemistry.



9/811, 359

09/ 835, 523

L9 ANSWER 206 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 207 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:681045 CAPLUS
 DOCUMENT NUMBER: 125:312648
 TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
 INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Katagiri, Kazuharu; Nakazawa, Ikuo
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

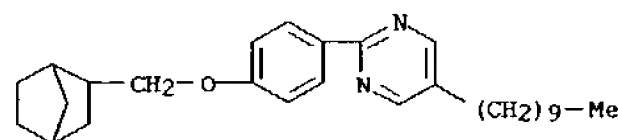
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 08209138 | A2 | 19960813 | JP 1995-32953 | 19950131 |
| PRIORITY APPLN. INFO.: | | | JP 1995-32953 | 19950131 |
| OTHER SOURCE(S): | | | MARPAT 125:312648 | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% R2X3A2X4(CH2)mC6H11 [R1-2 = C1-18 normal or branched alkyl; X1-3 = none, O, C(:O)O, OC(:O); X4 = none, OCH2, C(:O)O, OC(:O); n = 1-10; A1 = Q, Q1-5; m = 3-16; A2 = Q6-11]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable characteristics at ultralow temperature

IT 170633-41-7
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 170633-41-7 CAPLUS
 CN Pyrimidine, 2-[4-(bicyclo[2.2.1]hept-2-ylmethoxy)phenyl]-5-decyl- (9CI) (CA INDEX NAME)



L9 ANSWER 208 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:681044 CAPLUS
 DOCUMENT NUMBER: 125:312647
 TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
 INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Katagiri, Kazuharu; Nakazawa, Ikuo
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

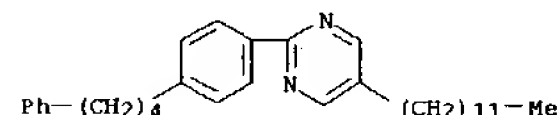
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 08209137 | A2 | 19960813 | JP 1995-32951 | 19950131 |
| PRIORITY APPLN. INFO.: | | | JP 1995-32951 | 19950131 |
| OTHER SOURCE(S): | | | MARPAT 125:312647 | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% R2X3A2X4(CH2)mC6H11 [R1-2 = C1-18 normal or branched alkyl; X1-3 = none, O, C(:O)O, OC(:O); X4 = none, OCH2, C(:O)O, OC(:O); n = 1-10; A1-2 = Q, Q1-5; m = 3-16]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable tilt angle and contrast at ultralow temperature

IT 159381-12-1
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 159381-12-1 CAPLUS
 CN Pyrimidine, 5-dodecyl-2-[4-(4-phenylbutyl)phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 209 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:681043 CAPLUS
 DOCUMENT NUMBER: 125:312646
 TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
 INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Mizuno, Ju; Nakazawa, Ikuo
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

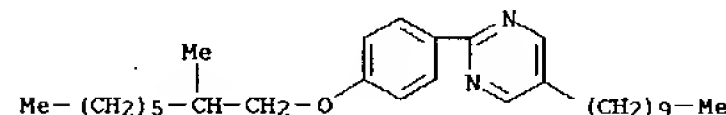
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 08209135 | A2 | 19960813 | JP 1995-32949 | 19950131 |
| PRIORITY APPLN. INFO.: | | | JP 1995-32949 | 19950131 |
| OTHER SOURCE(S): | | | MARPAT 125:312646 | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% R3X2A2X3(CH2)mC6H11 [R1-3 = C1-18 normal or branched alkyl; X1-2 = none, O, C(:O)O, OC(:O); X3 = none, OCH2, C(:O)O, OC(:O); A1 = 1,4-phenylene, 1,4-cyclohexylene; A2 = Q, Q1-5; m = 3-16]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable tilt angle and contrast at ultralow temperature

IT 183156-87-8
 RL: DEV (Device component use); USES (Uses)
 (chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 183156-87-8 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(2-methyloctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



9/811, 359

09/ 835,523

L9 ANSWER 210 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:675583 CAPLUS
DOCUMENT NUMBER: 125:312645
TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Mizuno, Ju; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08209133 | A2 | 19960813 | JP 1995-32947 | 19950131 |

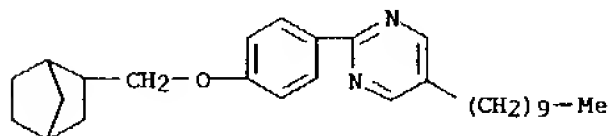
PRIORITY APPLN. INFO.: JP 1995-32947 19950131
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% II [R1-3 = C1-18 normal or branched alkyl; X1-3 = none, O, C(:O)O, OC(:O); A1 = 1,4-phenylene, 1,4-cyclohexylene; A2 = Q, Q1-5; m = 1-10]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable characteristics at ultralow temperature

IT 170633-41-7
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 170633-41-7 CAPLUS
CN Pyrimidine, 2-[4-(bicyclo[2.2.1]hept-2-ylmethoxy)phenyl]-5-decyl- (9CI) (CA INDEX NAME)



L9 ANSWER 212 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:675581 CAPLUS
DOCUMENT NUMBER: 125:312643
TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Katagiri, Kazuharu; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08209128 | A2 | 19960813 | JP 1995-32952 | 19950131 |

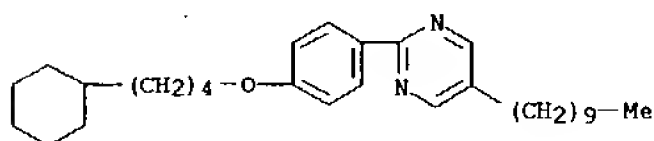
PRIORITY APPLN. INFO.: JP 1995-32952 19950131
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% II [R1-2 = C1-18 normal or branched alkyl; X1-3 = none, O, C(:O)O, OC(:O); A1-2 = Q, Q1-5; n = 1-10; X4 = OCH2, C(:O)O, OC(:O); m = 3-16]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable tilt angle and contrast at ultralow temperature

IT 159381-44-9
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 159381-44-9 CAPLUS
CN Pyrimidine, 2-[4-(4-cyclohexylbutoxy)phenyl]-5-decyl- (9CI) (CA INDEX NAME)



L9 ANSWER 211 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:675582 CAPLUS
DOCUMENT NUMBER: 125:312644
TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Mizuno, Ju; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08209131 | A2 | 19960813 | JP 1995-32945 | 19950131 |

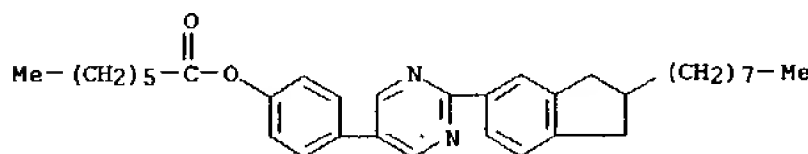
PRIORITY APPLN. INFO.: JP 1995-32945 19950131
OTHER SOURCE(S): MARPAT 125:312644
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% II [R1-3 = C1-18 normal or branched alkyl; X1-4 = none, O, C(:O)O, OC(:O); A1 = none, 1,4-phenylene, Q, 1,4-cyclohexylene; A2 = 1,4-phenylene, Q, Q1, 1,4-cyclohexylene; A3 = Q2-7; m = 1-10]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable tilt angle and contrast at ultralow temperature

IT 150635-58-8
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 150635-58-8 CAPLUS
CN Heptanoic acid, 4-[2-(2,3-dihydro-2-octyl-1H-inden-5-yl)-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 213 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:673645 CAPLUS
DOCUMENT NUMBER: 125:312649
TITLE: Chiral smectic liquid crystal composition and liquid crystal device containing it
INVENTOR(S): Yamashita, Masataka; Terada, Masahiro; Mori, Yoshimasa; Yamada, Nobutsugu; Katagiri, Kazuharu; Noguchi, Koji; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08209139 | A2 | 19960813 | JP 1995-32954 | 19950131 |

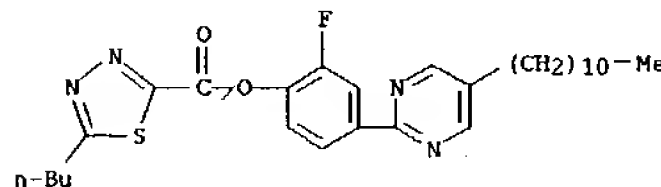
PRIORITY APPLN. INFO.: JP 1995-32954 19950131
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The composition contains 0.1-30 weight% I and 0.1-30 weight% R2X3A2X4(CH2)mC6H11 [R1-2 = C1-18 normal or branched alkyl; X1-4 = none, O, C(:O)O, OC(:O); n = 1-10; A1 = Q, Q1-5; m = 3-16; A2 = Q6-7]. The device contains the composition as a chiral smectic liquid crystal. The composition showed stable tilt angle and contrast at ultralow temperature

IT 183057-90-1
RL: DEV (Device component use); USES (Uses)
(chiral smectic liquid crystal composition with stable characteristics at ultralow temperature for display)

RN 183057-90-1 CAPLUS
CN 1,3,4-Thiadiazole-2-carboxylic acid, 5-butyl-, 2-fluoro-4-(5-undecyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



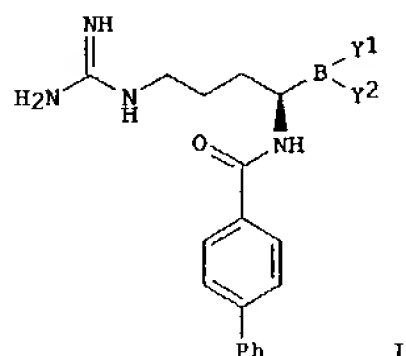
09/ 835,523

9/811,359

L9 ANSWER 214 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:672852 CAPLUS
 DOCUMENT NUMBER: 126:31466
 TITLE: Boronic acid and ester inhibitors of thrombin
 INVENTOR(S): Amparo, Eugene C.; Miller, William H.; Pacofsky, Gregory J.; Wityak, John; Weber, Patricia C.; Duncia, John J. V.; Santella, Joseph B., III
 PATENT ASSIGNEE(S): The Dupont Merck Pharmaceutical Company, USA
 SOURCE: U.S., 170 pp., Cont.-in-part of U.S. Ser. No. 348,029.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| US 5563127 A | | 19961008 | US 1994-364338 | 19941227 |
| PRIORITY APPLN. INFO.: | | | US 1993-36377 | 19930324 |
| | | | US 1994-318029 | 19941004 |
| | | | US 1994-348029 | 19941201 |

OTHER SOURCE(S): MARPAT 126:31466
 GI



AB Novel boronic acid and ester and carboxyl-modified amino acid compds. R1-Z-CHR2-A (A = organoboryl, BY1Y2: Y1, Y2 = independently OH, F, organoamino, Cl-8 alkoxy, Y1Y2 = cyclic boron ester, amide containing N, S, O; etc.; Z = (CH2)mCX, X = amido, thioamido, etc., substituted Cl-12 alkyl, alkenyl, etc.; R1 = arylalkenyl, aryl = substituted Ph, naphthyl, biphenyl, etc.; R2 = substituted Cl-12 alkyl, alkenyl, etc.), which are inhibitors of trypsin-like enzymes, are disclosed. Thus, amino acid modified boronic ester I (Y1Y2 = (+)-pinanediol) was prepared in multiple steps starting from (+)-pinanediol 4-bromo-1(R)-(4-phenylbenzoyl)aminobutane-1-boronate. Thrombin inhibition activity of some of the compds. prepared is described.

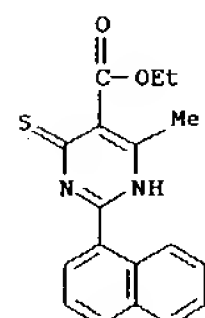
IT 180896-93-9P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of amino acid-modified boronic acids and esters as inhibitors of thrombin)

L9 ANSWER 215 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:650955 CAPLUS
 DOCUMENT NUMBER: 125:300847
 TITLE: Synthesis of pyrazole, pyrimidine and their fused derivatives
 AUTHOR(S): Assy, M. G.; El-Faragry, A. F.
 CORPORATE SOURCE: Faculty Science, Zagazig University, Zagazig, Egypt
 SOURCE: Egyptian Journal of Chemistry (1996), 39(3), 281-285
 CODEN: EGJCA3; ISSN: 0367-0422
 PUBLISHER: National Information and Documentation Centre
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB In this abstract, R = 1-naphthyl. Naphthoyl isothiocyanate (RCONCS, I) was reacted with Et cyanoacetate to yield RCONHCSCH(CN)CO2Et (II). Reaction of II with hydrazine hydrate afforded a pyrazolopyrazole. Condensation of II with guanidine carbonate yielded a pyrimidopyrimidine. Reaction of II with aniline afforded a pyrimidine derivative. Reaction of I with acetylacetone gave RCONHCSCH(COME)2 (III). Hydrazinolysis of III using hydrazine hydrate gave a pyrazole derivative. Condensation of I with Et β-aminocrotonate yielded a naphthylpyrimidine derivative.

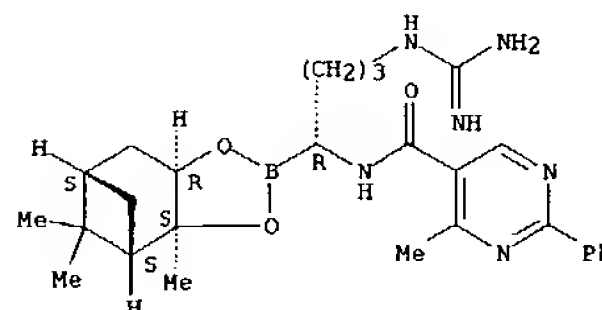
IT 183118-81-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of pyrazole and pyrimidine derivs.)

RN 183118-81-2 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 1,4-dihydro-6-methyl-2-(1-naphthalenyl)-4-thio-, ethyl ester (9CI) (CA INDEX NAME)



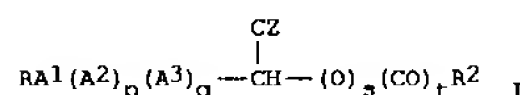
L9 ANSWER 214 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 RN 180896-93-9 CAPLUS
 CN 5-Pyrimidinecarboxamide, N-[(1R)-4-[(aminoiminomethyl)amino]-1-[(3aS,4S,6S,7aR)-hexahydro-3a,5,5-trimethyl-4,6-methano-1,3,2-benzodioxaborol-2-yl]butyl]-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 216 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:588534 CAPLUS
 DOCUMENT NUMBER: 125:234502
 TITLE: Liquid crystal composition containing aromatic compound
 INVENTOR(S): Fujimoto, Yukari; Matsumoto, Tsutomu; Minamii, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

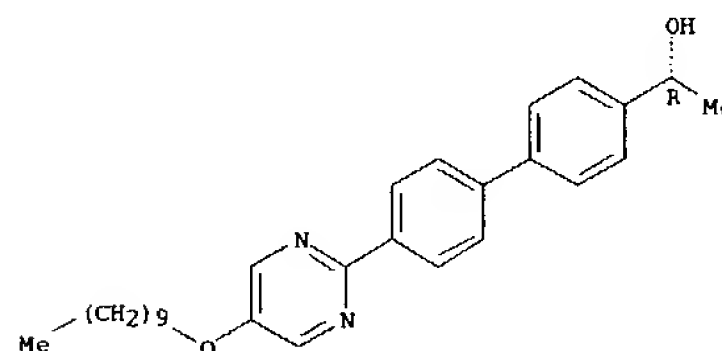
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08165258 | A2 | 19960625 | JP 1994-307437 | 19941212 |
| PRIORITY APPLN. INFO.: | | | JP 1994-307437 | 19941212 |



AB The liquid crystal composition comprises an aromatic compound I (R = H, F, trifluoromethyl, trifluoromethoxy, C2-15 alkoxyalkyl, 4-R1-(cycloalkyl), R1 = Cl-15 alkyl; R2 = Cl-15 alkyl, alkenyl; R3 = aromatic ring; p + q = 0 or 1; 2 = F, H; p, q = 0, 1; s, t = 0, 1). The liquid crystal composition has sufficient spontaneous polarization and a low viscosity suitable for a fast response time when it is used as a liquid crystal display element.

IT 181426-34-6
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (liquid crystal composition containing aromatic compound)
 RN 181426-34-6 CAPLUS
 CN [1,1'-Biphenyl]-4-methanol, 4'-[5-(decyloxy)-2-pyrimidinyl]-α-methyl-, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



9/811,309

09/835,523

L9 ANSWER 217 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:580754 CAPLUS
 DOCUMENT NUMBER: 125:250348
 TITLE: Polycyclic rodlike azo dyes based on aminophenylpyrimidine
 AUTHOR(S): Sedova, V. F.; Borovik, V. P.; Mikhaleva, M. A.; Shkurko, O. P.
 CORPORATE SOURCE: Novosib. Inst. Org. Khim., Novosibirsk, 630090, Russia
 SOURCE: Khimiya Geterotsiklicheskih Soedinenii (1996), (5), 693-702
 CODEN: KGSSAQ; ISSN: 0132-6244
 PUBLISHER: Latviiskii Institut Organicheskogo Sinteza
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

AB Rodlike three ring-containing mono- and bisazo dyes are synthesized via azo coupling from arylpyrimidine amino derivs. and N,N-dialkylanilines or p-nitroso-N,N-dialkylanilines. Azo coupling of 2,5-bis(p-aminophenylpyrimidine) diazonium salt is followed by diazonium group substitution with hydrogen or aryl group. Monoazo dyes show mesomorphic properties not observed in bisazo dyes.

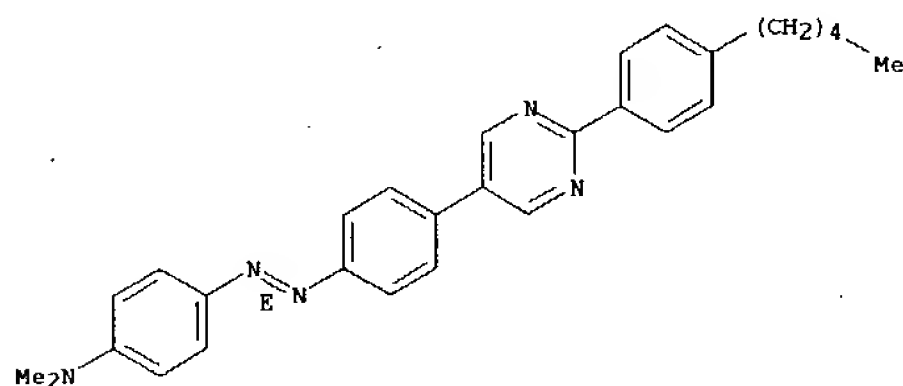
IT 182343-01-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (dye, mesomorphic; preparation and characterization of polycyclic rodlike azo dyes based on aminophenylpyrimidine)

RN 182343-01-7 CAPLUS

CN Benzenamine, N,N-dimethyl-4-[[4-[2-(4-pentylphenyl)-5-pyrimidinyl]phenyl]azo]-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L9 ANSWER 218 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:577048 CAPLUS
 DOCUMENT NUMBER: 125:208695
 TITLE: Alkoxy substituent-containing optical active compound, liquid crystal composition, and display device
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08176050 | A2 | 19960709 | JP 1994-318243 | 19941221 |
| PRIORITY APPLN. INFO.: | | | JP 1994-318243 | 19941221 |

AB The compound comprises RIAY(BZ)mDO(CH₂)₄CR₂W [I; R₁ = (F- or Cl-12 alkoxy-substituted) C1-18 alkyl, alkoxy, C2-18 alkenyl, C3-18 alkenyloxy; m = 0, 1; A, B, D = (F-substituted) 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl, 1,3-dioxane-2,5-diyl, trans-1,4-cyclohexylene; Y, Z = none, CH₂CH₂, C.tplbond.C, CH₂O, OCH₂; W = F, OH, OMe, OCF₃; R₂ = C1-18 alkyl]. The solution contains I as a chiral dopant. The display device consists of the solution I showed good chemical stability and low viscosity.

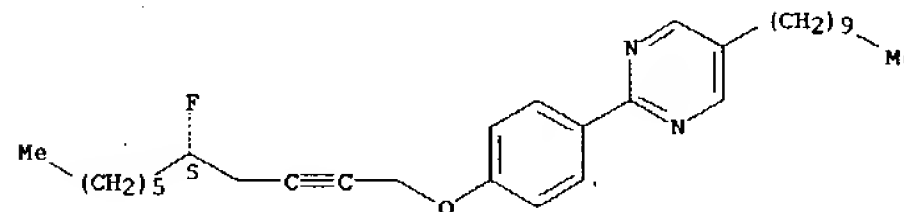
IT 180870-31-9P

RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (alkoxy substituent-containing optical active compound, liquid crystal composition, and display device)

RN 180870-31-9 CAPLUS

CN Pyrimidine, 5-decyl-2-[4-[(5-fluoro-2-undecynyl)oxy]phenyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 219 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:571931 CAPLUS
 DOCUMENT NUMBER: 125:208625
 TITLE: Liquid crystal display device, its manufacturing method, its drive method and liquid crystal composition for the device
 INVENTOR(S): Moriwaki, Fumio; Hacha, Satoshi; Endo, Hiroyuki
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08160373 | A2 | 19960621 | JP 1995-234246 | 19950912 |
| US 5686021 | A | 19971111 | US 1995-534982 | 19950927 |
| PRIORITY APPLN. INFO.: | | | JP 1994-240096 | 19941004 |

AB The liquid crystals of the title device show at least two liquid crystal phases and the same alignment direction, and the fastest response time of the liquid crystal phases is ≤1/50 of the slowest response time of the liquid crystal phases. The liquid crystal composition comprised of polymeric ferroelec. liquid crystals is claimed using Markush structures. The device showed excellent orientation stability and impact-resistance.

IT 181177-65-1

RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition for liquid crystal display device)

RN 181177-65-1 CAPLUS

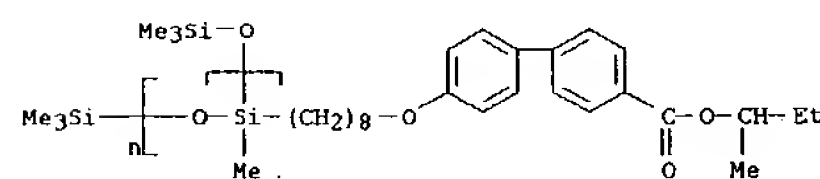
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-[[4-[[10-[1,1,3,3-tetramethyl-3-[2-(2-propenyl)-4-pentenyl]disiloxanyl]decyl]oxy]benzoyl]oxy]-, 1-methylbutyl ester, (S)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 8-[4-(5-decyl-2-pyrimidinyl)phenoxy]octyl 3-methylbutanoate, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and (S)-α-(trimethylsilyl)-ω-[(trimethylsilyl)oxy]poly[oxy[methyl[8-4'-(1-methylpropoxy)carbonyl][1,1'-biphenyl]-4-yl]oxy]octyl]silylene]] (9CI) (CA INDEX NAME)

CM 1

CRN 181177-64-0

CMF (C26 H36 O4 Si)n C6 H18 O Si2

CCI PMS



CM 2

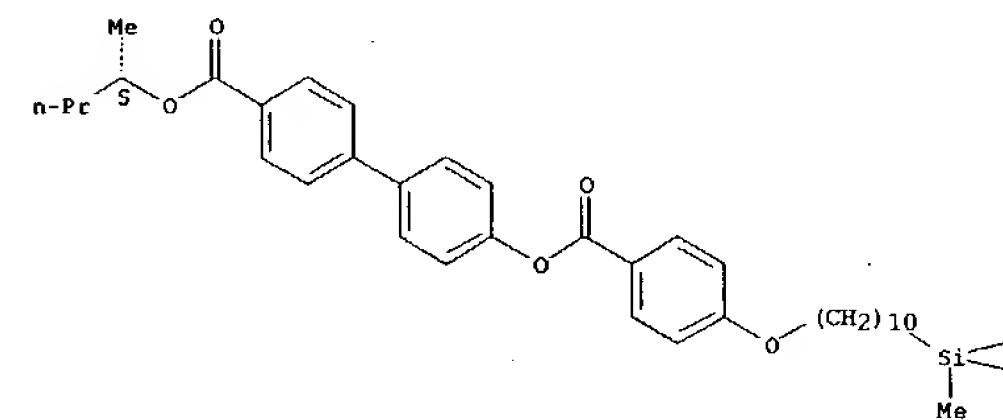
CRN 167024-47-7

CMF C47 H68 O6 Si2

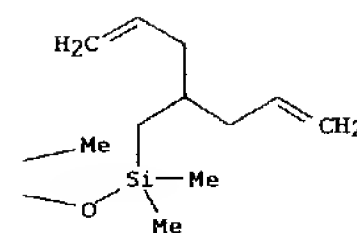
Absolute stereochemistry.

L9 ANSWER 219 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A



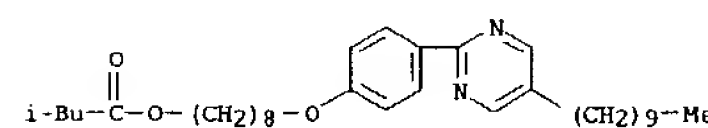
PAGE 1-B



CM 3

CRN 155167-16-1

CMF C33 H52 N2 O3



CM 4

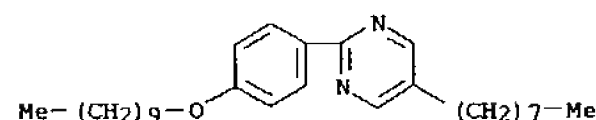
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CMF C28 H44 N2 O

09/835,523

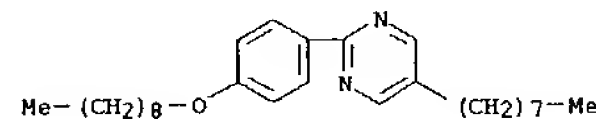
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L9 ANSWER 219 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



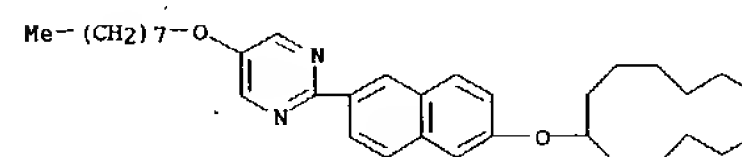
CM 5

CRN 57202-51-4
CMF C27 H42 N2 O



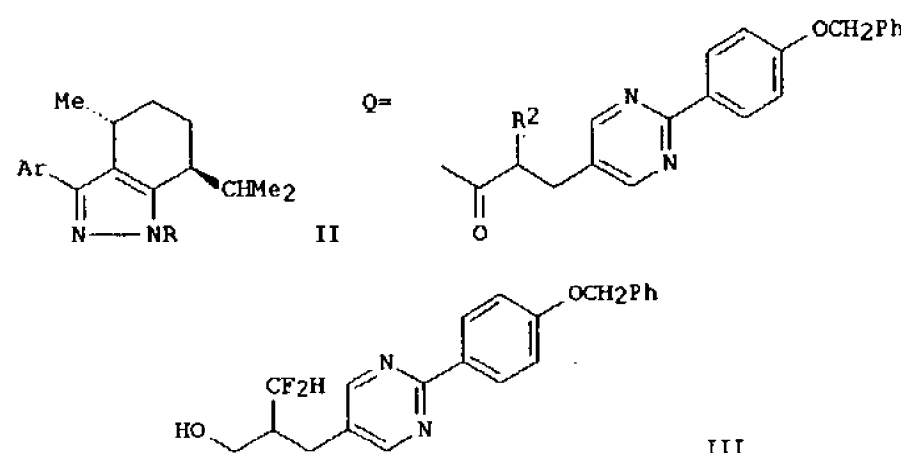
L9 ANSWER 220 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:563201 CAPLUS
DOCUMENT NUMBER: 125:208568
TITLE: Liquid-crystal compound and liquid-crystal display device using same
INVENTOR(S): Nakamura, Shinichi; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Kosaka, Yoko
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|----------|
| JP 08157398 | A2 | 19960618 | JP 1994-319502 | 19941130 |
| PRIORITY APPLN. INFO.: | | | JP 1994-319502 | 19941130 |
| OTHER SOURCE(S): | | MARPAT 125:208568 | | |
| AB | Claimed are a liquid-crystal compound such as 2-(4-cyclododecyloxyphenyl)-5-decylpyrimidine and a liquid-crystal composition containing the compound Also claimed is a liquid-crystal display element comprising the above liquid-crystal composition between a pair of substrates. This ferroelec. liquid-crystal display element shows good switching properties. | | | |
| IT | 181022-48-0 | | | |
| RL: | DEV (Device component use); USES (Uses) (liquid-crystal compound) | | | |
| RN | 181022-48-0 CAPLUS | | | |
| CN | Pyrimidine, 2-[6-(cyclododecyloxy)-2-naphthalenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME) | | | |



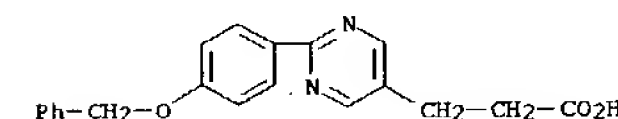
L9 ANSWER 221 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:560259 CAPLUS
DOCUMENT NUMBER: 125:195670
TITLE: Method for producing optically active 2-substituted alcohol derivative by stereoselective alkylation of acylmenthopyrazole derivative and reduction
INVENTOR(S): Saito, Noryuki; Ppanda, Yutaka
PATENT ASSIGNEE(S): Hitachi Chemical Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------------------------------------|-----------------|----------|
| JP 08165261 | A2 | 19960625 | JP 1994-308909 | 19941213 |
| PRIORITY APPLN. INFO.: | | | JP 1994-308909 | 19941213 |
| OTHER SOURCE(S): | | CASREACT 125:195670; MARPAT 125:195670 | | |
| GI | | | | |



AB Optically active 2-substituted (hetero)arylalkanoic acid derivs. HOCH2C*HR2R1 [I: C* denotes an asym. C atom; R1 = alkyl, (un)substituted aryl, aralkyl, aryl ring-(un)substituted acylpyrimidinyl or arylpyrimidylalkyl; R2 = alkyl substituted by ≥2 halogens], which are useful as raw materials for ferroelec. liquid crystals, drugs, and agrochems., are prepared by acylation of menthopyrazole derivs. [II: Ar = (un)substituted aryl; R = H] with XC(O)CH2R1 (X = leaving group; R1 = = same as above), reacting the resulting N-acylmenthopyrazole derivs. II (R = COCH2R1; Ar, R1 = same as above) with a metal salt-forming agent and haloalkylating or haloalkyl-introducing agent and optional reductive debromination of the Br in the side chain R2 of the resulting optically active II (R = COCH2R1; Ar, R1, R2 = same as above) followed by reduction to I. Thus, 0.607 g 3-phenyl-1-menthopyrazole, 1.96 g 2-(4-benzoyloxyphenyl)-5-(2-carboxyethyl)pyrimidine, 0.57 mL SOCl2, 1.35 mL Et3N, and 59 mL toluene were stirred at room temperature for 20 min and at 90° for 9 h to give II (Ar = Ph, R = Q, R2 = H). The latter compound (761.8 mg) was placed in a flask, azeotropically boiled with toluene, treated with 27 mL THF, cooled to -45°, treated with a 1 M solution of lithium bis(trimethylsilyl)amide (1.6 mL) and after 30 min, cooled to -78°.

L9 ANSWER 221 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
treated with 0.18 mL dibromodifluoromethane, stirred under blocking light for 1.5 h, and quenched by adding a soln. of 240 mg AcOH in THF (4 mL) to give, after silica gel chromatog., 47.2% II (Ar = Ph, R = Q, R2 = CF2Br). This compd. (366.3 mg) was placed in a flask, azeotropically boiled with toluene, treated with 26 mL toluene, 145.2 μL Bu3SnH, and 4.3 mg 2,2'-azobisisobutyronitrile, sealed, and heated at 80° with stirring for 1 h to give, after silica gel chromatog., 93.8% II (Ar = Ph, R = Q, R2 = CF2H). A mixt. of the latter compd. (345.3 mg), 14 mL THF, and a 2 M soln. of LiBH4 in THF (334 μL) was sealed in a flask and left to stand at room temp. for 12 h to give, after silica gel chromatog., 61.2% the title compd. (III) of 96.4% e.e.
IT 180974-95-2, 2-(4-Benzoyloxyphenyl)-5-(2-carboxyethyl)pyrimidine
RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of optically active 2-haloalkyl(hetero)arylalkanol by stereoselective haloalkylation of acylmenthopyrazole derivative and reduction)
RN 180974-95-2 CAPLUS
CN 5-Pyrimidinepropanoic acid, 2-[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



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097-835,523

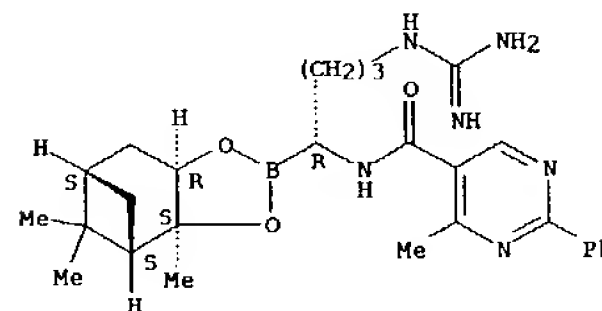
L9 ANSWER 222 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:557907 CAPLUS
 DOCUMENT NUMBER: 125:222432
 TITLE: Preparation of α -aminoboronic acid and ester as inhibitors of thrombin
 INVENTOR(S): Amparo, Eugene Cruz; Miller, William Henry; Pacofsky, Gregory James; Wityak, John; Weber, Patricia Carol; Duncia, John Jonas Vytautas; Santella, Joseph Basil, III
 PATENT ASSIGNEE(S): The Du Pont Merck Pharmaceutical Company, USA
 SOURCE: PCT Int. Appl., 416 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9620689 | A2 | 19960711 | WO 1995-US16248 | 19951213 |
| WO 9620689 | A3 | 19961024 | | |
| W: AU, CA, JP, MX, NZ | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| US 5563127 | A | 19961008 | US 1994-364338 | 19941227 |
| AU 9646404 | A1 | 19960724 | AU 1996-46404 | 19951213 |
| EP 810858 | A2 | 19971210 | EP 1995-944331 | 19951213 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE | | | | |
| PRIORITY APPLN. INFO.: US 1994-364338 A 19941227 US 1993-36377 B2 19930324 US 1994-318029 B2 19941004 US 1994-348029 A2 19941201 WO 1995-US16248 W 19951213 | | | | |

OTHER SOURCE(S): MARPAT 125:222432
 AB Novel boronic acid and ester and carboxyl-modified amino acid compds. of formula R1-Z-CH(R1)-A [A = BY1Y2, CO CF3, CO2R3, COCOR3, PO3H2, CHO, etc.; wherein Y1, Y2 = OH, F, NR3R4, C1-8 alkoxy; or Y1 and Y2 are taken together to form a cyclic boron ester, cyclic boron amide, or cyclic boron amide ester containing 2-20 C atoms and 0-3 heteroatoms selected from N, S, or Se; R3 = H, C1-8 alkyl, aryl-C1-4 alkyl, C5-7 cycloalkyl, Ph; R4 = group listed in R3, phenylsulfonyl; Z = (CH2)m CON R8, (CH2)m C(S)NR8, (CH2)m CO2, (CH2)m C(S)O, (CH2)m SO2O; wherein m = 0-6 and R8 = H, ring-(un)substituted phenylalkyl, C3-7 cycloalkyl, C1-8 alkyl; R1 = ring-substituted arylalkyl or heteroaryl, etc.; R2 = substituted C1-12 alkyl or C2-12 alkenyl, (substituted alkyl)phenylalkyl], which are inhibitors of trypsin-like enzymes, notably blood coagulation proteases such as human thrombin, factor VIIa, factor IXa, factor Xa, plasma kallikrein, and plasmin, and are useful for the treatment of thrombosis and inflammation or as anticoagulants for the processing of blood for therapeutic or diagnostic purposes or for the production of blood products or fragments, are prepared. Thus, (+)-pinanediol 4-bromo-1(R)-aminobutane-1-boronate hydrochloride was acylated by 4-phenylbenzoyl chloride in the presence of N-methylmorpholine in CH2Cl2 to give (+)-pinanediol 4-bromo-1(R)-(4-phenylbenzoylamino)butane-1-boronate, which underwent azidolysis with NaN3 in DMF at 70° for 2 h to give (+)-pinanediol 4-azido-1(R)-(4-phenylbenzoylamino)butane-1-boronate, and catalytic hydrogenation in the presence of Pd(OH)2/C in a mixture of MeOH and 1 M aqueous HCl to give (+)-pinanediol 4-amino-1(R)-(4-phenylbenzoylamino)butane-1-

L9 ANSWER 222 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 boronate, i.e., N1-(4-phenylbenzoyl)boroornithine (+)-pinanediol ester hydrochloride, followed by condensation with aminoiminomethanesulfonic acid in the presence of 4-dimethylaminopyridine in ethanol at reflux of 3 h to give N-(4-phenylbenzoyl)boroarginine (+)-pinanediol ester, bisulfite. The latter compd. in vitro inhibited human thrombin and factor Xa with Ki value of <500 and 50,000 nM, resp.
 IT 180896-93-9P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of α -aminoboronic acids and esters as inhibitors of blood coagulation proteases for disease therapy)
 RN 180896-93-9 CAPLUS
 CN 5-Pyrimidinecarboxamide, N-[1(R)-4-[(aminoiminomethyl)amino]-1-[(3aS,4S,6S,7aR)-hexahydro-3a,5,5-trimethyl-4,6-methano-1,3,2-benzodioxaborol-2-yl]butyl]-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)

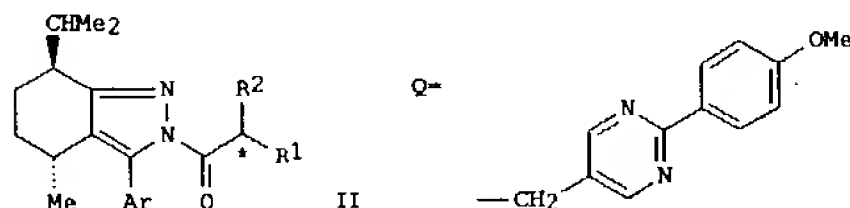
Absolute stereochemistry.



L9 ANSWER 223 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:557727 CAPLUS
 DOCUMENT NUMBER: 125:195671
 TITLE: Method for producing optically active 2-substituted carboxylic acid derivative by stereoselective alkylation of acylmenthopyrazole derivative and intermediate thereof
 INVENTOR(S): Saito, Noryuki; Pponda, Yutaka
 PATENT ASSIGNEE(S): Hitachi Chemical Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

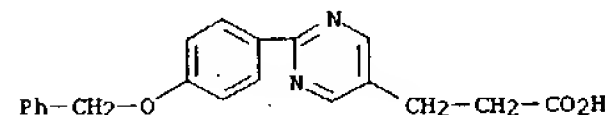
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------|------|----------|-----------------|----------|
| JP 08165270 | A2 | 19960625 | JP 1994-308908 | 19941213 |
| PRIORITY APPLN. INFO.: JP 1994-308908 19941213 | | | | |
| OTHER SOURCE(S): CASREACT 125:195671; MARPAT 125:195671 | | | | |

GI



AB Optically active 2-substituted (hetero)arylalkanoic acid derivs. R3O2CC*HR2R1 [I; C* denotes an asym. C atom; R1 = alkyl, (un)substituted aryl, aralkyl, aryl ring-(un)substituted arylpyrimidinyl or arylpyrimidylalkyl; R2 = alkyl substituted by ≥ 2 halogens; R3 = H, alkyl], which are useful as raw materials for ferroelec. liquid crystals, drugs, and agrochems., are prepared by reacting N-acylmenthopyrazole derivs. [II; C* denotes an asym. C atom; Ar = (un)substituted aryl; R1 = same as above; R2 = H] with a metal salt-forming agent and haloalkylating or haloalkyl-introducing agent and reacting the resulting II (Ar, R1 = same as above; R2 = alkyl substituted by ≥ 2 halogens) with alcs. HO-R3 [R3 = H, (un)substituted alkyl] in the presence of an acidic reagent. Thus, 11.2 mg II (Ar = Ph, R1 = Q, R2 = CF2H) was placed in a screw-cap test tube, azeotropically boiled with toluene, treated with 0.2 mL anhydrous MeOH and 5.4 μ L Et2O.BF3, and after sealing the test tube, heated at 90° for 10 h, and concentrated in vacuo at 40° to give, after preparative TLC, 40.1% I (R3 = Me, R1 = Q, R2 = CF2H). In another example, 548.1 mg II (Ar = Ph, R1 = Q, R2 = H) was placed in a flask, azeotropically boiled with toluene, treated with 22 mL THF, cooled to -45°, treated with a 1 M solution of lithium bis(trimethylsilyl)amide (0.15 mL) and after 30 min with 0.15 mL dibromodifluoromethane, stirred under blocking light for 1.5 h, and quenched by adding a solution of 200 mg AcOH in THF (4 mL) to give, after silica gel chromatog., 62.8% II (Ar = Ph, R1 = Q, R2 = CF2Br).
 IT 180974-95-2, 2-(4-Benzoyloxyphenyl)-5-(2-carboxyethyl)pyrimidine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of optically active 2-haloalkyl(hetero)arylalkanoic acid derivative

L9 ANSWER 223 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 by metalation and stereoselective alkylation of acylmenthopyrazole deriv. and alcoholysis)
 RN 180974-95-2 CAPLUS
 CN 5-Pyrimidinepropanoic acid, 2-[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



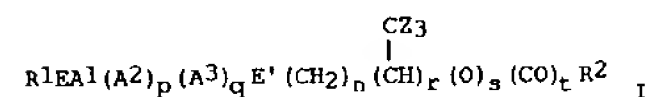
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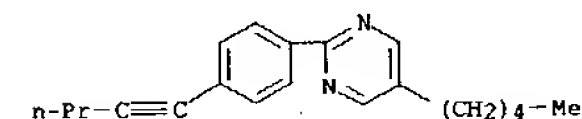
L9 ANSWER 224 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:551100 CAPLUS
 DOCUMENT NUMBER: 125:208571
 TITLE: Aromatic liquid crystal compound with superior refractive index anisotropy for liquid crystal display
 INVENTOR(S): Fujimoto, Yukari; Matsumoto, Tautomu; Minami, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08151337 | A2 | 19960611 | JP 1994-295209 | 19941129 |
| | | | JP 1994-295209 | 19941129 |

PRIORITY APPLN. INFO.:
 GI



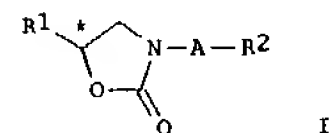
AB The title compound has a formula I (R1 = halo-(un)substituted C1-20 alkyl, halo-(un)substituted C2-15 alkoxyalkyl; R2 = H, F, halo-(un)substituted C1-15 alkyl, halo-(un)substituted C2-20 alkoxyalkyl; E, E' = CH=CH, C.tplbond.C; Z = H, F; A1-3 = specified aromatic group; when A1 is a condensed ring, p+q = 0, 1; when A1 is single ring, p+q = 1, 2; When p+q = 2, A2 and A3 all are a single ring; Z = H, F, p, q, r, s, t = 0, 1; u, w = 0-3; n = 0-8). Liquid crystal composition and liquid crystal display using the above compound are also claimed.
 IT 180785-97-1P
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepared as aromatic liquid crystal compound for liquid crystal composition and display)
 RN 180785-97-1 CAPLUS
 CN Pyrimidine, 5-pentyl-2-[4-(1-pentynyl)phenyl]- (9CI) (CA INDEX NAME)



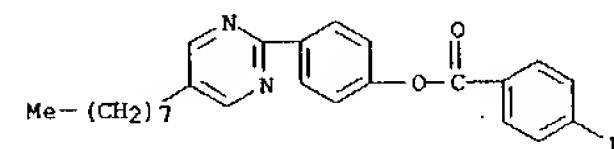
L9 ANSWER 225 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:551084 CAPLUS
 DOCUMENT NUMBER: 125:208565
 TITLE: Optically active compound, liquid crystal composition using the same and liquid crystal device
 INVENTOR(S): Takiguchi, Takaor; Iwaki, Takashi; Tokano, Goji; Kosaka, Yoko; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08151576 | A2 | 19960611 | JP 1994-319498 | 19941130 |
| | | | JP 1994-319498 | 19941130 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 125:208565
 GI



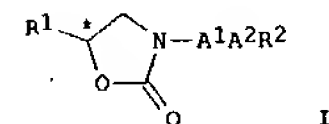
AB The title compound is represented by I (R1 = C2-20 alkyl; R2 = C7-20 alkyl; A = 1,4-phenylene). The composition contains 1-80 % of the compound. The device showed improved switching characteristics suitable for liquid crystal displays and liquid crystal shutters.
 IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition for liquid crystal display)
 RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



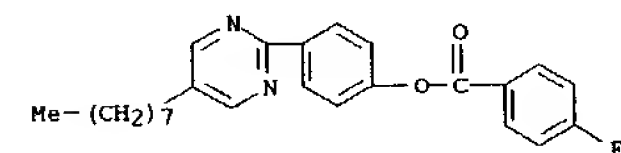
L9 ANSWER 226 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:551083 CAPLUS
 DOCUMENT NUMBER: 125:181512
 TITLE: Optically active compound, liquid crystal composition containing the same and liquid crystal device
 INVENTOR(S): Takiguchi, Takaor; Iwaki, Takashi; Tokano, Goji; Kosaka, Yoko; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08151577 | A2 | 19960611 | JP 1994-319499 | 19941130 |
| | | | JP 1994-319499 | 19941130 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 125:181512
 GI



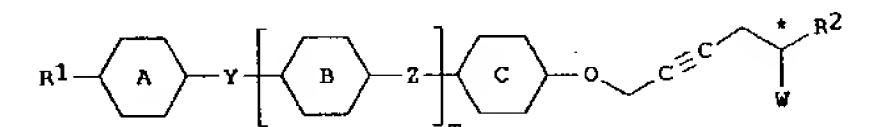
AB The title compound is represented by I (R1, R2 = C2-20 alkyl; A1 = pyrimidine-2,5-diyl, pyridine-2,5-diyl, etc.; A2 = A1, single bond, 1,4-phenylene, 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl, 1,3-dithiane-2,5-diyl). The composition contains 1-80 % of the compound. The composition shows a chiral smectic phase. The device showed improved switching characteristics suitable for liquid crystal displays and liquid crystal shutters.
 IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition of liquid crystal display)
 RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 227 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:550862 CAPLUS
 DOCUMENT NUMBER: 125:181658
 TITLE: Optically active compound containing 5-substituted-2-alkynyloxy group and liquid crystal composition therefrom
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08157409 | A2 | 19960618 | JP 1994-298319 | 19941201 |
| | | | JP 1994-298319 | 19941201 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 125:181658
 GI



AB The compound is represented by I [R1 = (≥1 F- or Cl-12 alkoxy-substituted) C1-18-alkyl or -alkoxy, C2-18 alkenyl, C3-18 alkenyloxy; m = 0, 1; ring A-C = (1 or 2 F-substituted) 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl, 1,3-dioxane-2,5-diyl, trans-1,4-cyclohexylene; Y, Z = single bond, (CH2)2, C.tplbond.C, CH2O, OCH2; W = F, OH, OCH3, OCF3; R2 = C1-18 alkyl; * notes the C is optically-active chiral C]. The liquid crystal composition contains I, preferably showing ferroelec. chiral smectic phase. A liquid crystal display device, using the composition, is also claimed. The compound shows low viscosity and provides liquid crystal composition with good responsibility in large temperature range.
 IT 180870-32-0
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (chiral dopant containing 5-substituted-2-alkynyloxy group for liquid crystal composition)
 RN 180870-32-0 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(5-fluoro-2-undecynyl)oxy]phenyl]-, (S)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

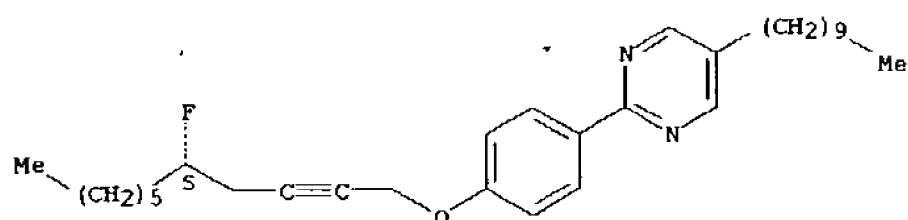
CM 1
 CRN 180870-31-9
 CMF C31 H45 F N2 O

Absolute stereochemistry.

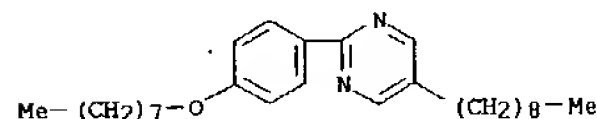
9/811, 359

09/835,523

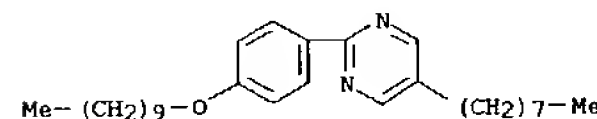
L9 ANSWER 227 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



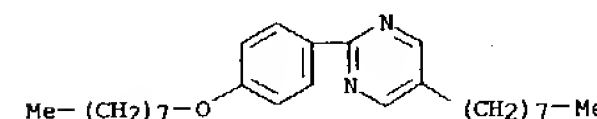
CM 2
CRN 57202-58-1
CMF C27 H42 N2 O



CM 3
CRN 57202-52-5
CMF C28 H44 N2 O

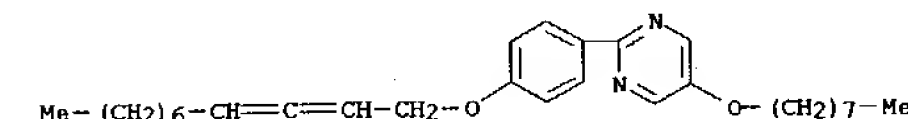


CM 4
CRN 57202-50-3
CMF C26 H40 N2 O

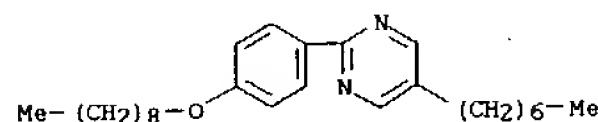


CM 5
CRN 57202-40-1
CMF C26 H40 N2 O

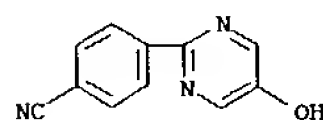
L9 ANSWER 228 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:534389 CAPLUS
DOCUMENT NUMBER: 125:235009
TITLE: Synthesis of novel liquid-crystalline allene derivatives with ferroelectric properties
AUTHOR(S): Stichler-Bonaparte, Juergen; Kruth, Holger; Lunkwitz, Ralph; Tschierske, Carsten
CORPORATE SOURCE: Inst. Organische Chem., Martin-Luther-Univ. Halle, Halle, D-06120, Germany
SOURCE: Liebigs Annalen (1996), (9), 1375-1379
CODEN: LANAEM; ISSN: 0947-3440
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The heterocyclic liquid-crystalline compds. incorporating a 1,3-disubstituted allene unit and thiadiazole derivs. were synthesized. These axial-chiral compds. were investigated by polarization microscopy and DSC. One of them was also synthesized in enantiomerically enriched form by enantioselective synthesis. The latter product exhibits a ferroelec. switchable chiral smectic C phase with an unexpectedly large value of spontaneous polarization.
IT 181525-46-2P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation and liquid crystal and ferroelec. properties of)
RN 181525-46-2 CAPLUS
CN Pyrimidine, 5-(octyloxy)-2-[4-(2,3-undecadienyloxy)phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 227 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 229 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:534239 CAPLUS
DOCUMENT NUMBER: 125:277050
TITLE: Liquid crystal comb-shaped polymers with mesogenic groups containing polar 2-(p-cyanophenyl)pyrimidine fragments
AUTHOR(S): Kostromin, S. G.; Kuz'min, A. V.; Mikhaleva, M. A.; Shibaev, V. P.
CORPORATE SOURCE: Moskovskii Gosudarstvennyi Universitet, Moscow, 119899, Russia
SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (1996), 38(5), 808-813
CODEN: VSSBEE
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB New comb-shaped polymers (polysiloxanes, polyacrylates, and polymethacrylates) containing polar 2-(p-cyanophenyl)pyrimidine fragments in the side chains were synthesized. Structural identification of the phases formed by these polymers was carried out, and the temp. and heats of the phase transitions were determined. Comparison of the properties of the synthesized polymers with those of structurally similar polymers containing 4-cyanobiphenyl groups revealed that incorporation of cyanophenylpyrimidine fragments into the macromols. raises the glass transition temperature, enhances the tendency of the resultant polymers to crystallize and form ordered smectic phases, and increases the thermal stability of the liquid crystal phases.
IT 150405-59-7, 2-(Cyanophenyl)-5-hydroxypyrimidine
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer synthesis; preparation and properties of liquid crystal comb-shaped polymers with mesogenic groups containing polar (cyanophenyl)pyrimidine fragments)
RN 150405-59-7 CAPLUS
CN Benzonitrile, 4-(5-hydroxy-2-pyrimidinyl)- (9CI) (CA INDEX NAME)



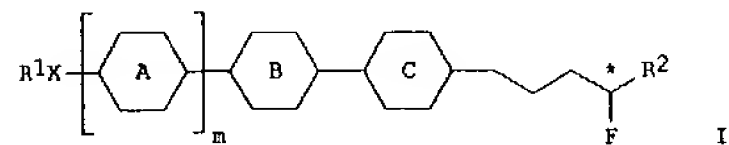
9/8/11, 359

09/ 835,523

L9 ANSWER 230 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:523538 CAPLUS
 DOCUMENT NUMBER: 125:154624
 TITLE: Optically-active compound with 4-fluoroalkyl group and liquid crystal composition containing it
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 08143489 | A2 | 19960604 | JP 1994-289725 | 19941124 |
| PRIORITY APPLN. INFO.: | | JP 1994-289725 | 19941124 | |
| OTHER SOURCE(S): | | MARPAT 125:154624 | | |

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AB The compound is represented by I [R1 = (F- or C1-10 alkyl-substituted) C1-18 alkyl; X = single bond or O; m = 0, 1; when m = 1, ring A = 1,4-phenylene, pyrimidine-2,5-diyl, trans-1,4-cyclohexylene, each group may be substituted with 1 or 2 F atom(s); ring B-C = 1,4-phenylene, pyrimidine-2,5-diyl, each group may be substituted with 1 or 2 F atom(s); R2 = C1-18 alkyl; * notes the C is optically-active asym. C.]. The liquid crystal composition contains the compound I. The liquid crystal composition may

show SmC* (ferroelec. chiral smectic phase) phase. A liquid crystal display device, containing the liquid crystal composition, is also claimed. The compound

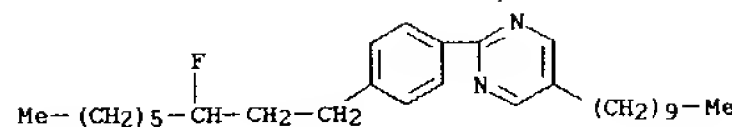
shows low viscosity, good stability for light and water, and provides a host liquid crystal composition with rapid responsibility.

IT 180308-00-3
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal composition for display device)

RN 180308-00-3 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-(3-fluoronyl)phenyl]-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

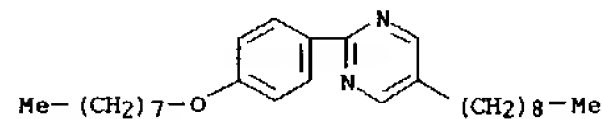
CM 1

L9 ANSWER 230 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CRN 180307-99-7
 CMF C29 H45 F N2



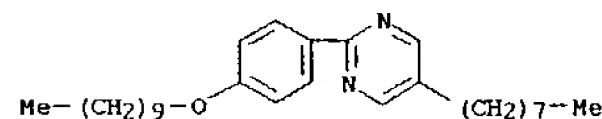
CM 2

CRN 57202-58-1
 CMF C27 H42 N2 O



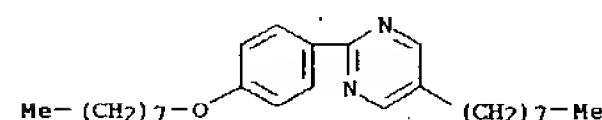
CM 3

CRN 57202-52-5
 CMF C28 H44 N2 O



CM 4

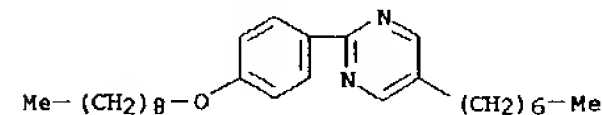
CRN 57202-50-3
 CMF C26 H40 N2 O



CM 5

CRN 57202-40-1
 CMF C26 H40 N2 O

L9 ANSWER 230 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

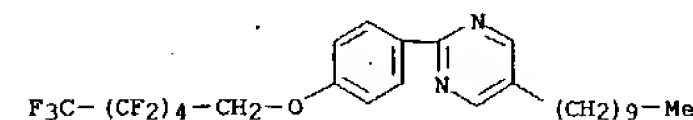


L9 ANSWER 231 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:518893 CAPLUS
 DOCUMENT NUMBER: 125:182130
 TITLE: Nature of the smectic-A-smectic-C transition of a partially perfluorinated compound
 AUTHOR(S): Stoebe, T.; Reed, L.; Vaum, M.; Huang, C. C.
 CORPORATE SOURCE: Dep. Chem. Eng. Mater. Sci., Univ. Minnesota, Minneapolis, MN, 55455, USA
 SOURCE: Physical Review E: Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (1996), 54(2), 1584-1591
 CODEN: PLEEEB; ISSN: 1063-651X
 PUBLISHER: American Physical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The smectic-A-smectic-C phase transition of one partially perfluorinated liquid-crystal compds. was studied by performing detailed calorimetric studies of both bulk samples and free-standing films. The heat-capacity data from thin free-standing films demonstrate the importance of fluctuations due to reduced dimensionality. Also, the data from bulk samples and thick films cannot be adequately described by the customary extended means-field model. Discussions of other fitting schemes are presented. The free-standing film and bulk data are most consistent with a functional form based on the extended mean-field model but including Gaussian fluctuations. Also, the inclusion of Gaussian fluctuation terms adequately accounts for the observed film thickness dependence of smectic-A-smectic-C heat-capacity anomaly exhibited by this partially perfluorinated compound

IT 159680-03-2
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (nature of smectic-A-smectic-C transition of liquid crystals of)

RN 159680-03-2 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,6-undecafluorohexyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



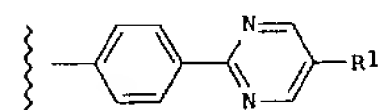
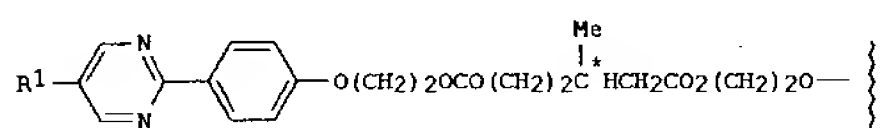
9/811, 359

09/ 835,523

L9 ANSWER 232 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:476364 CAPLUS
 DOCUMENT NUMBER: 125:128011
 TITLE: Liquid crystal material and ferroelectric liquid crystal composition
 INVENTOR(S): Yoshizawa, Atsushi
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08120271 | A2 | 19960514 | JP 1994-283998 | 19941025 |
| PRIORITY APPLN. INFO.: | | JP 1994-283998 19941025 | | |
| OTHER SOURCE(S): | | MARPAT 125:128011 | | |

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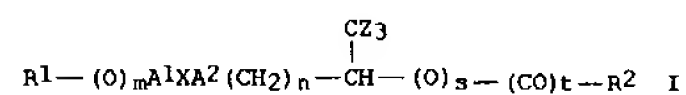
AB The material contains ≥ 1 of I and II (R1-2 = C4-12 alkyl).
 ≥ 1 of I and II is added to a liquid crystal material(s) to give a ferroelec. liquid crystal composition. Spiral pitch of the chiral smectic phase can be controlled by adding the material without affecting to other phys. properties of the liquid crystal composition.
 IT 155854-32-3
 RL: DEV (Device component use); USES (Uses)
 (ferroelec. liquid crystal composition containing phenylpyrimidine compound)
 RN 155854-32-3 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (3R)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 233 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:473070 CAPLUS
 DOCUMENT NUMBER: 125:127909
 TITLE: Phenylpyrimidine ester compound and its manufacture and usage in liquid-crystal display element
 INVENTOR(S): Fujimoto, Yukari; Matsumoto, Tsutomu; Minami, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

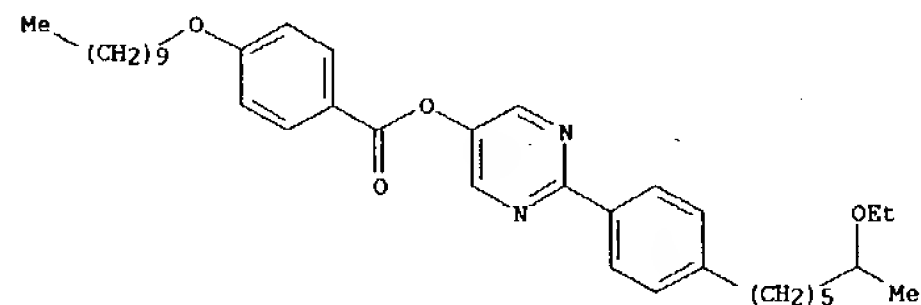
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08113571 | A2 | 19960507 | JP 1994-247723 | 19941013 |
| PRIORITY APPLN. INFO.: | | JP 1994-247723 19941013 | | |
| OTHER SOURCE(S): | | MARPAT 125:127909 | | |

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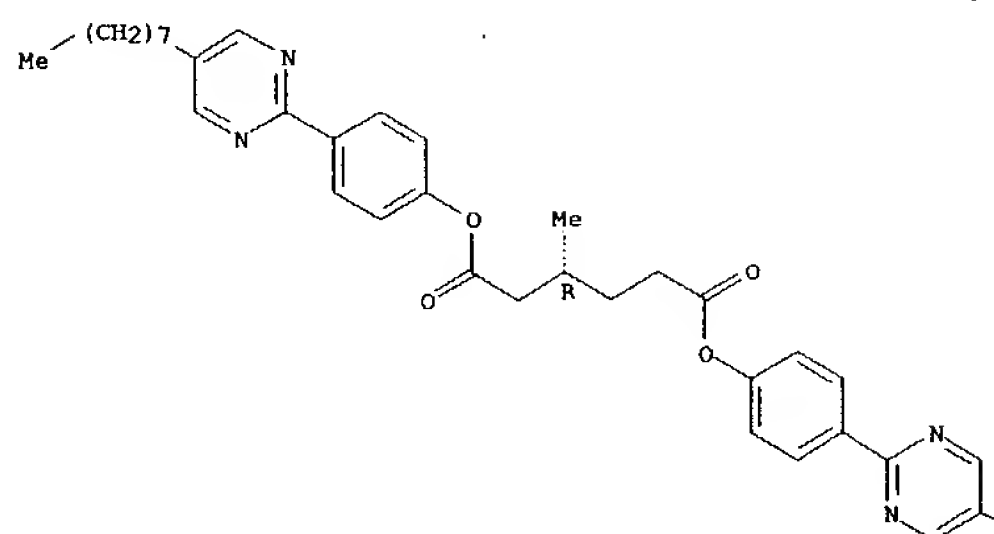
AB Claimed is a phenylpyrimidine ester compound I (R1 = C1-15 alkyl, C2-15 alkoxyalkyl; R2 = C1-15 alkyl, C2-15 alkoxyalkyl, H, F; X = CO2, OCO; Z = H, F; A1, 2 = Ph, pyrimidyl, etc.; i, j = 0-3; n = 0-8; m, s, t = 0, 1). Also claimed are two methods for manufacturing the phenylpyrimidine ester compound, a liquid-crystal composition containing the ethynylene compound, and a liquid-crystal display element comprising the liquid-crystal composition.
 IT 179471-29-5P
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
 (liquid-crystal composition from)
 RN 179471-29-5 CAPLUS
 CN Benzoic acid, 4-(decyloxy)-, 2-[4-(6-ethoxyheptyl)phenyl]-5-pyrimidinyl ester, (+)-(9CI) (CA INDEX NAME)

Rotation (+).

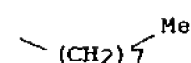


L9 ANSWER 232 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A



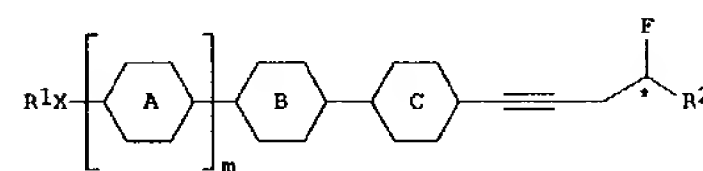
PAGE 1-B



L9 ANSWER 234 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:472955 CAPLUS
 DOCUMENT NUMBER: 125:154499
 TITLE: Optical active compound with 4-fluoro-1-alkynyl group and liquid crystal composition
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08143488 | A2 | 19960504 | JP 1994-280451 | 19941115 |
| PRIORITY APPLN. INFO.: | | JP 1994-280451 19941115 | | |
| OTHER SOURCE(S): | | MARPAT 125:154499 | | |

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AB Optical active compds. I (R1 = F, C1-18 alkyl which may be substituted for C1-10 alkoxy; X = bond, O; m = 0-1; when m = 1 A = 1,4-phenylene which may be substituted for 1 or 2 F atoms, pyrimidine-2,5-diyl, trans-1,4-cyclohexylene; B, C = 1,4-phenylene which may be substituted for 1 or 2 F atoms, pyrimidine-2,5-diyl; R2 = C1-18 alkyl), liquid crystal composition containing I, and display device using the composition are claimed.

I can be prepared easily, shows good stability, low viscosity, and the liquid crystal composition shows rapid response.

IT 180258-36-0
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition containing fluoroalkynyl compound)

RN 180258-36-0 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with (S)-2-[4-(4-fluoro-1-decynyl)phenyl]-5-(octyloxy)pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

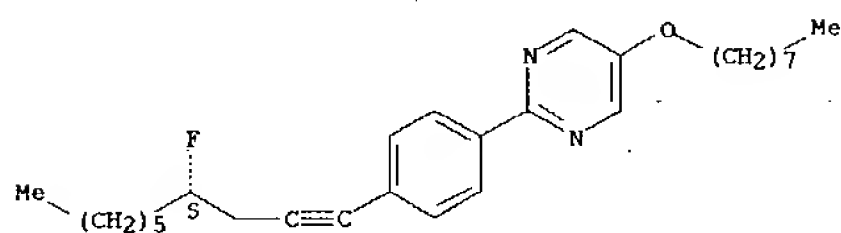
CRN 180258-34-8
 CMF C28 H39 F N2 O

Absolute stereochemistry.

9/811, 359

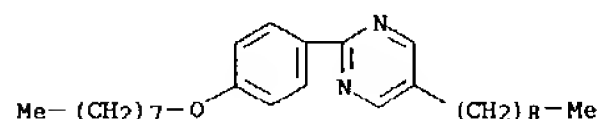
09/ 835, 523

L9 ANSWER 234 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



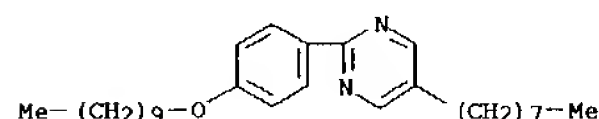
CM 2

CRN 57202-58-1
CMF C27 H42 N2 O



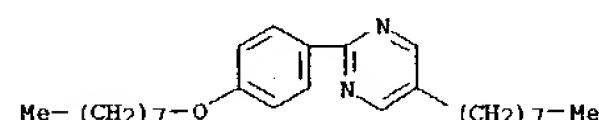
CM 3

CRN 57202-52-5
CMF C28 H44 N2 O



CM 4

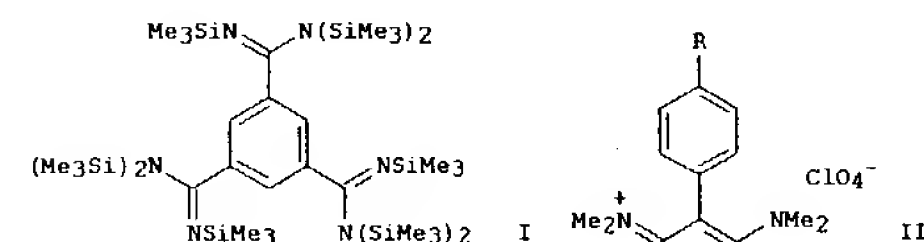
CRN 57202-50-3
CMF C26 H40 N2 O



CM 5

CRN 57202-40-1
CMF C26 H40 N2 O

L9 ANSWER 235 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:469377 CAPLUS
DOCUMENT NUMBER: 125:195576
TITLE: An efficient new pyrimidine synthesis. A pathway to octupoles
AUTHOR(S): Brandl, Stefan; Gompper, Rudolf; Polborn, Kurt
CORPORATE SOURCE: Inst. Organische Chemie, Ludwig-Maximilians-Univ., Munich, D-80333, Germany
SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung (1996), 338(5), 451-459
CODEN: JPCCEM, ISSN: 0941-1216
PUBLISHER: Barth
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

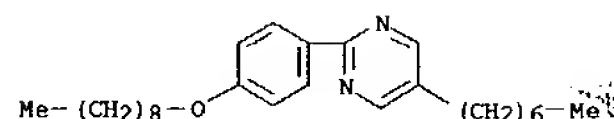


AB The condensation of *N,N,N'*-tris(trimethylsilyl)amidines, e.g. I, with vinamidinium salts, e.g. II (*R* = H, Me, OMe, OH etc.), in the presence of KF is the method of choice for the synthesis of pyrimidines. Octupoles comprising 1,3,5-benzene and triphenylamine derivs. were prepared in high yields. The latter have roughly the same λ_{max} as their dipolar analogs, but have higher hyperpolarizabilities, making them promising candidates for SHG.

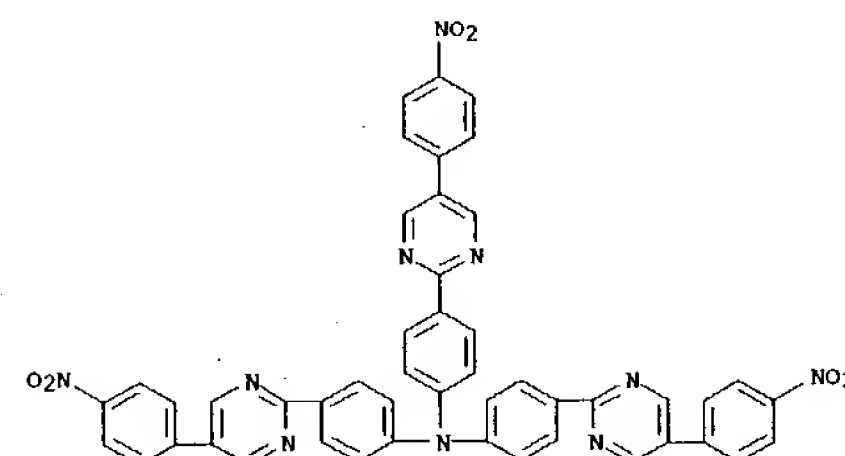
IT 180507-11-3P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyrimidines with octupole structure from amidines and vinamidinium salts)

RN 180507-11-3 CAPLUS
CN Benzenamine, 4-[5-(4-nitrophenyl)-2-pyrimidinyl]-*N,N*-bis[4-[5-(4-nitrophenyl)-2-pyrimidinyl]phenyl]- (9CI) (CA INDEX NAME)

L9 ANSWER 234 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 235 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



9/811, 359

09/ 835, 523

L9 ANSWER 236 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:466907 CAPLUS
DOCUMENT NUMBER: 125:127905
TITLE: Ethynylene compound for liquid-crystal composition and liquid-crystal display element using same
INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Yamada, Yoko; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08109145 | A2 | 19960430 | JP 1994-271847 | 19941012 |

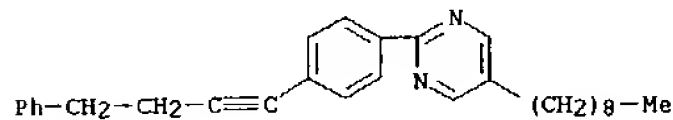
PRIORITY APPLN. INFO.: JP 1994-271847 19941012

AB Claimed is an ethynylene compound such as 1-(5-decyloxy-pyrimidine-2-yl)-4-(4-phenyl-1-butynyl)benzene. A liquid-crystal composition contains an ethynylene compound, and a liquid-crystal display element comprises the above liquid-crystal composition layer enclosed between a pair of electrode substrates.

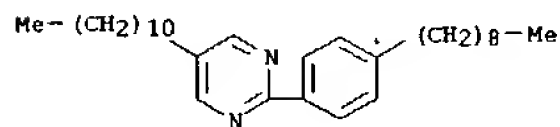
IT 179316-97-3
RL: DEV (Device component use); USES (Uses)
(liquid-crystal composition from)

RN 179316-97-3 CAPLUS

CN Pyrimidine, 5-nonyl-2-[4-(4-phenyl-1-butynyl)phenyl]- (9CI) (CA INDEX NAME)



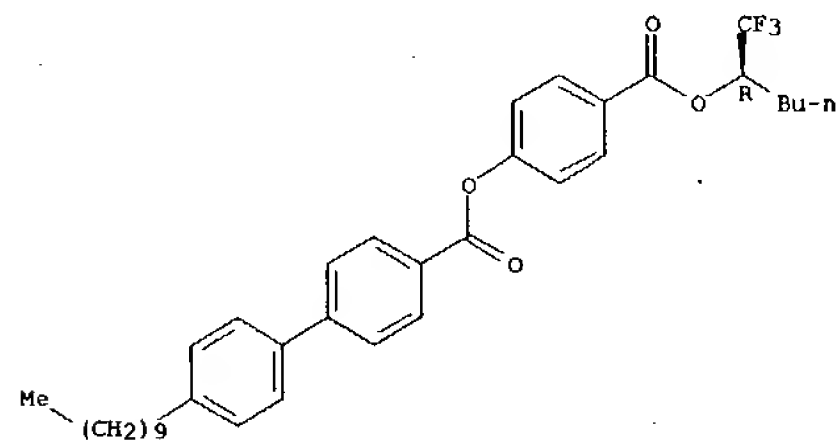
L9 ANSWER 237 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2

CRN 177651-41-1
CMF C36 H43 F3 O4

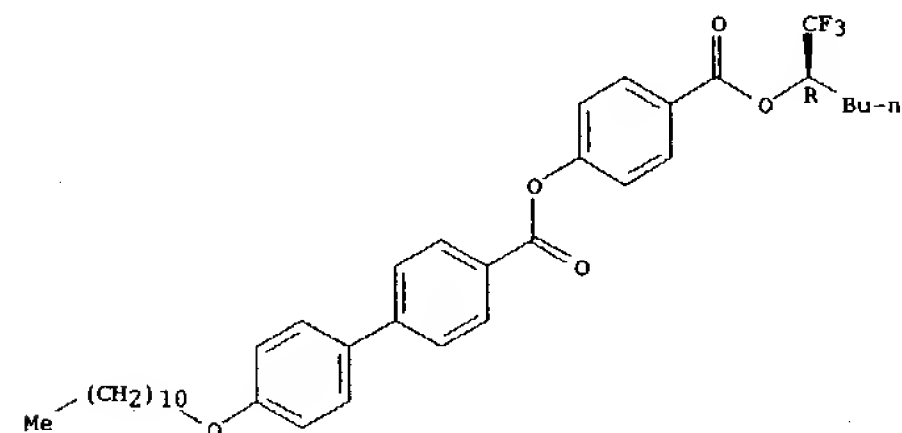
Absolute stereochemistry.



CM 3

CRN 177651-40-0
CMF C37 H45 F3 O5

Absolute stereochemistry.



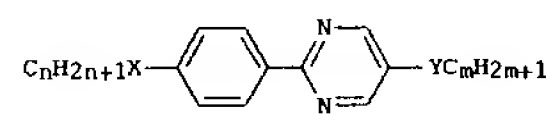
L9 ANSWER 237 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:461959 CAPLUS
DOCUMENT NUMBER: 125:128024
TITLE: Liquid crystal-improving agent useful for antiferroelectric liquid crystal
INVENTOR(S): Hashimoto, Shigeji; Okabe, Nobuhiro; Aihara, Yoshihiko
PATENT ASSIGNEE(S): Showa Shell Sekiyu, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08113785 | A2 | 19960507 | JP 1994-277114 | 19941017 |

PRIORITY APPLN. INFO.: JP 1994-277114 19941017

OTHER SOURCE(S): MARPAT 125:128024

GI



AB The title agent has the general formula I (m, n = 4-14; X, Y = single bond, O, CO2, OCO). Antiferroelec. liquid crystal comps. containing the agent shows high response rate and lower threshold voltage. Thus, I (n = 9, X = Y = single bond, m = 11) was used typically for the agent.

IT 179128-64-4
RL: DEV (Device component use); USES (Uses)
(liquid crystal composition containing phenylpyrimidine derivative)

RN 179128-64-4 CAPLUS

CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-decyl-, 4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester, (R)-, mixt. with (R)-3-fluoro-4-[[[1-methylheptyl]oxy]carbonyl]phenyl 4'-dodecyl[1,1'-biphenyl]-4-carboxylate, (R)-1-methylheptyl 4'-[(4-octylbenzoyl)oxy][1,1'-biphenyl]-4-carboxylate, 2-(4-nonylphenyl)-5-undecylpyrimidine, (R)-4-[[[1-(trifluoromethyl)pentyl]oxy]carbonyl]phenyl 4'-decyl[1,1'-biphenyl]-4-carboxylate and (R)-4-[[[1-(trifluoromethyl)pentyl]oxy]carbonyl]phenyl 4'-(undecyloxy)[1,1'-biphenyl]-4-carboxylate (9CI) (CA INDEX NAME)

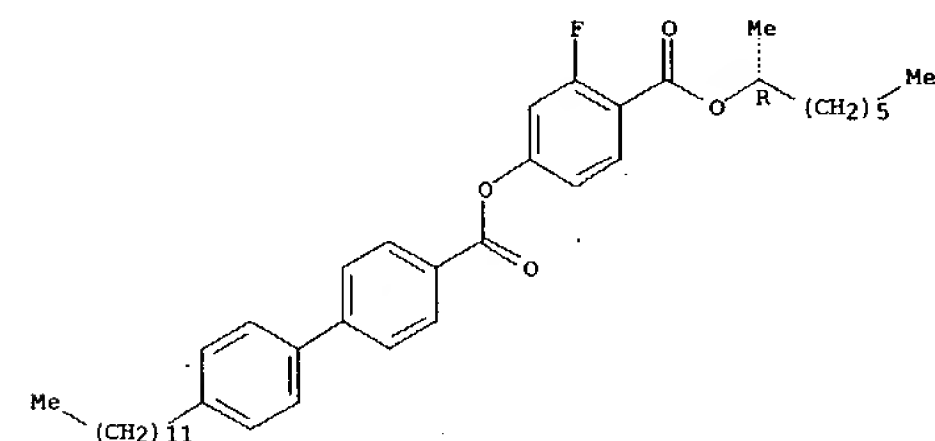
CM 1

CRN 179128-63-3
CMF C30 H48 N2

L9 ANSWER 237 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 4
CRN 173926-67-5
CMF C40 H53 F O4

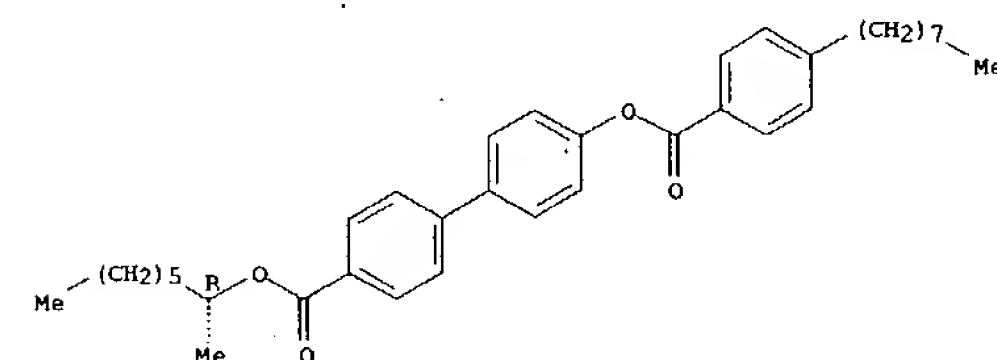
Absolute stereochemistry.



CM 5

CRN 170636-33-6
CMF C36 H46 O4

Absolute stereochemistry.



CM 6

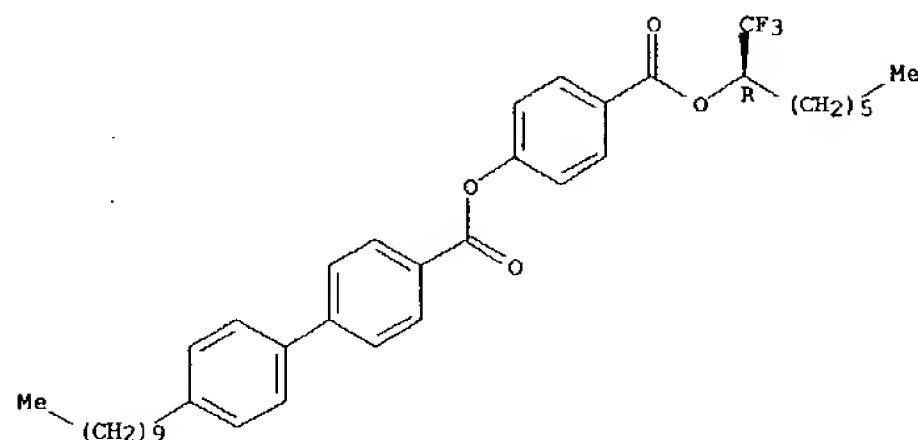
CRN 170636-31-4
CMF C38 H47 F3 O4

Absolute stereochemistry.

9/811, 359

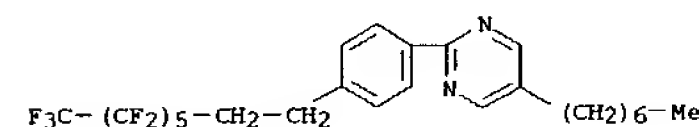
09/835,523

L9 ANSWER 237 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 238 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:448709 CAPLUS
 DOCUMENT NUMBER: 125:155044
 TITLE: Correlations in the thermal fluctuations of free-standing smectic-A films as measured by x-ray scattering
 AUTHOR(S): Mol, E. A. L.; Shindler, J. D.; Shalaginov, A. N.; de Jeu, W. H.
 CORPORATE SOURCE: FOM Inst. Atomic Mol. Phys., Amsterdam, 1098 SJ, Neth.
 SOURCE: Physical Review E: Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (1996), 54(1), 536-549
 CODEN: PLEEE8; ISSN: 1063-651X
 PUBLISHER: American Physical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The displacement-displacement correlations in the thermal fluctuations of freely suspended smectic-A films of 3 to 34 layers were determined using small angle specular and diffuse x-ray scattering. By choosing a sym. resolution a simple separation of the resolution function into contributions parallel and perpendicular to the wave vector transfer is possible. This enables modeling of the scattered intensity without introducing an artificial separation of the specular and diffuse contribution. The data are interpreted using a continuous model to describe the displacement-displacement correlations, which is equivalent to the original discrete model of R. Holyst (1991). Two characteristic in-plane lengths are introduced: R_l , above which the distance dependence of the correlation function follows a logarithmic law, and R_c , above which the layers throughout the film fluctuate in unison, i.e., conformally. Values for the smectic bend and compression elastic consts. as well as the surface tension were obtained from the wavelength dependence of the correlations. The fluctuation profile depends only slightly on the film thickness and is nearly flat for the fluorinated compound studied. All films studied are conformal down to the smallest in-plane length scales measured. Also, the collective long wavelength thermal fluctuations, which only depend on the diffuse scattering, can be separated from the local smectic disorder. The local contribution to the total fluctuation profile is considerable.
 IT 162104-82-7, 4-Heptyl-2-[4-(2-perfluorohexylethyl)phenyl]pyrimidine
 RL: PRP (Properties)
 (correlations in thermal fluctuations of free-standing smectic-A films as measured by x-ray scattering)
 RN 162104-82-7 CAPLUS
 CN Pyrimidine, 5-heptyl-2-[4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)phenyl]- (9CI) (CA INDEX NAME)

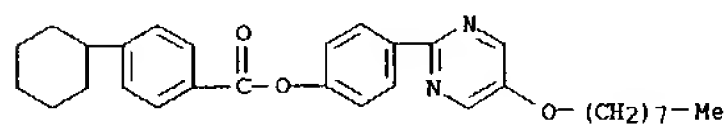


L9 ANSWER 239 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:440566 CAPLUS
 DOCUMENT NUMBER: 125:100330
 TITLE: Liquid-crystal mixture and display device using the same
 INVENTOR(S): Takeichi, Ayako; Nonaka, Toshiaki; Nagao, Kazuya; Yamaguchi, Hidemasa; Harada, Takamasa
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|------------------|----------|
| DE 19540389 | A1 | 19960523 | DE 1995-19540389 | 19951030 |
| JP 08134452 | A2 | 19960528 | JP 1994-280326 | 19941115 |
| US 5844653 | A | 19981201 | US 1995-556566 | 19951113 |
| PRIORITY APPLN. INFO.: | | JP 1994-280326 19941115 | | |

AB In the title mixture showing a specific chiral smectic C-phase transition temperature range and a specific smectic A-phase transition temperature range, a difference between a cone angle at $(TC/A-10)^\circ$ and a cone angle at $(TC/A-40)^\circ$ is $\leq 10^\circ$. The display device showed improved contrast.
 IT 155078-96-9
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal mixture for display devices)
 RN 155078-96-9 CAPLUS
 CN Benzoic acid, 4-cyclohexyl-, 4-[5-(octyloxy)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

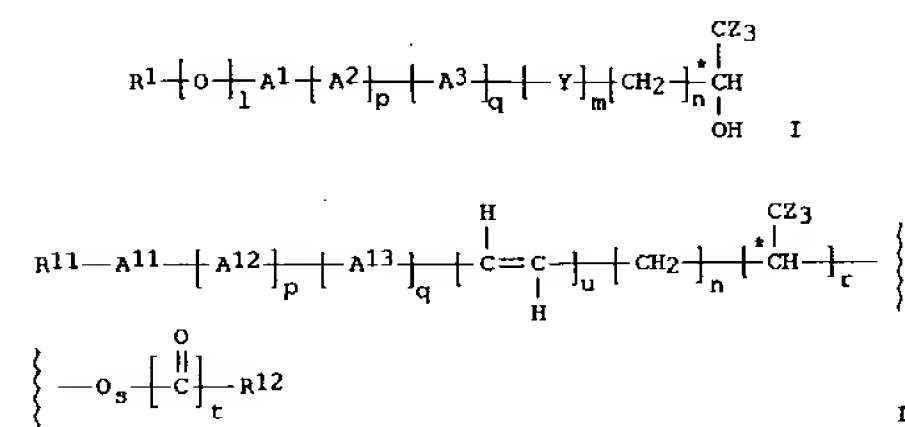


L9 ANSWER 240 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:437876 CAPLUS
 DOCUMENT NUMBER: 125:100348
 TITLE: Liquid-crystal composition and liquid-crystal element using same
 INVENTOR(S): Endo, Kyoko; Sekine, Chizu; Fujisawa, Koichi; Fujimoto, Yukari; Matsumoto, Tsutomu; Minami, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 79 pp.
 CODEN: JXKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08113778 | A2 | 19960507 | JP 1994-276115 | 19941013 |
| PRIORITY APPLN. INFO.: | | JP 1994-276115 19941013 | | |

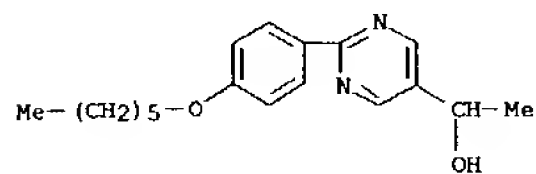
OTHER SOURCE(S): MARPAT 125:100348
 GI



AB The ferroelec. chiral smectic liquid-crystal composition contains I [R1 = alkyl, alkoxyalkyl; l, m, p, q = 0, 1; n = 0-8; A1-3 = phenylene, etc.; Y = single, double, or triple bond; Z = H, F] and II [R11,12 = alkyl, alkoxy, alkoxyalkyl; A11-13 = phenylene, etc.; * = asym. carbon; Z = H, F; n = 0-10; p, q, r, s, t, u = 0, 1]. Also claimed is a liquid-crystal element comprising the above liquid-crystal composition enclosed between a pair of electrode substrates.
 IT 178821-79-9
 RL: DEV (Device component use); USES (Uses)
 (ferroelec. chiral smectic liquid-crystal composition from)
 RN 178821-79-9 CAPLUS
 CN 5-Pyrimidinemethanol, 2-[4-(hexyloxy)phenyl]-α-methyl- (9CI) (CA INDEX NAME)

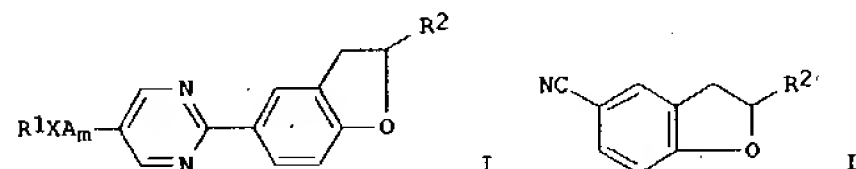
~~09/835,523~~

L9 ANSWER 240 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN. (Continued)



| | | | | |
|-------------------------|-------------------|---------------------------------------------------------------------------------------|--------------------|--------|
| 19 | ANSWER 241 OF 573 | CAPLUS | COPYRIGHT 2004 ACS | on STN |
| ACCESSION NUMBER: | | 1996:434751 | CAPLUS | |
| DOCUMENT NUMBER: | | 125:100418 | | |
| TITLE: | | Dibenzofuran derivative, liquid crystal composition containing it, and display device | | |
| INVENTOR(S): | | Takehara, Sadao; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi | | |
| PATENT ASSIGNEE(S): | | Dainippon Ink & Chemicals, Japan; Sagami Chem Res Jpn. Kokai Tokkyo Koho, 15 pp. | | |
| SOURCE: | | CODEN: JKXXAF | | |
| DOCUMENT TYPE: | | Patent | | |
| LANGUAGE: | | Japanese | | |
| FAMILY ACC. NUM. COUNT: | | 1 | | |
| PATENT INFORMATION: | | | | |

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|-------------------|----------|-----------------|----------|
| JP 08092246 | A2 | 19960409 | JP 1994-227828 | 19940922 |
| PRIORITY APPLN. INFO.: | | | JP 1994-227828 | 19940922 |
| OTHER SOURCE(S): | MARPAT 125:100418 | | | |
| GI | | | | |



AB The dibenzofuran derivative consists of I or II [R1 = F, (C1-10 alkoxy-substituted) C1-10 alkyl; X = none, O; m = 0, 1; A = (F-substituted) 1,4-phenylene, trans-1,4-cyclohexylene if m = 1; R2 = C1-16 alkyl]. A liquid crystal composition for a display device contains I. A liquid crystal composition containing I as a chiral dopant shows a rapid response

in liquid crystal composition containing 1:1:1 chiral dopant based on liquid crystal
a wide temperature range.
IT 178697-50-2
RI: DEV (Device component use); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(dibenzofuran derivative as chiral dopant for liquid crystal composition for
display device)

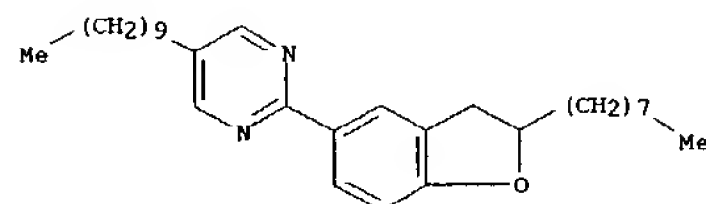
RN 178697-50-2 CAPLUS
CN Pyrimidine, 5-decyl-2-(2,3-dihydro-2-octyl-5-benzofuranyl)-, (+)-, mixt.
with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(
nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and
5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 169892-79-9
CMF C30 H46 N2 O

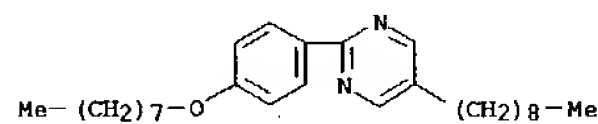
Rotation (+).

L9 ANSWER 241 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



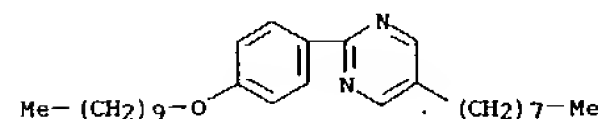
CM 2

CRN 57202-58-1
CMF C27 H42 N2 O



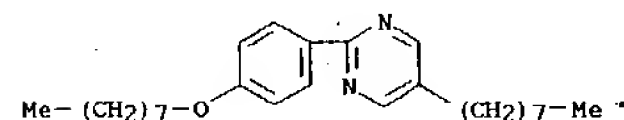
CM 3

CRN 57202-52-5
CMF C28 H44 N2 O



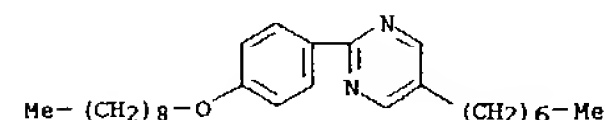
CM 4

CRN 57202-50-3
CMF C26 H40 N2 O



CM 5

CRN 57202-40-1
CMF C26 H40 N2 O



9/811, 359

09/835,523

L9 ANSWER 242 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:422064 CAPLUS
DOCUMENT NUMBER: 125:128382
TITLE: Chirality in liquid-crystalline twin materials
AUTHOR(S): Nishiyama, Isa; Yoshizawa, Atsushi
CORPORATE SOURCE: Japan Energy Corporation, Saitama, 335, Japan
SOURCE: Ferroelectrics (1996), 179(1-4, Proceedings of the Fifth International Conference on Ferroelectric Liquid Crystals, 1995, Pt. 2), 103-113
CODEN: FEROAB; ISSN: 0015-0193

PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English

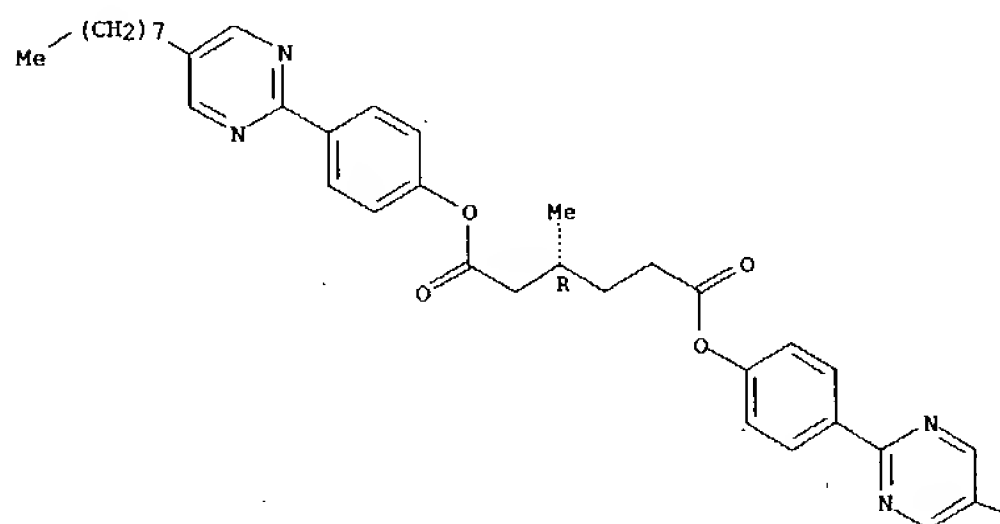
AB Helical macrostructures in the liquid-crystalline phases induced by chiral twin materials where the chiral center was introduced at the central spacer were studied. Relations between mol. structures and the twisting power are reported and discussed in two different types of helical liquid-crystalline phases, i.e., the cholesteric and chiral smectic C phases.

IT 155854-32-3
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(chirality and mol. structure-twisting power relationship induced by chiral monomer and twin material dopants in liquid crystals)

RN 155854-32-3 CAPLUS
CN Hexanedioic acid, 3-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

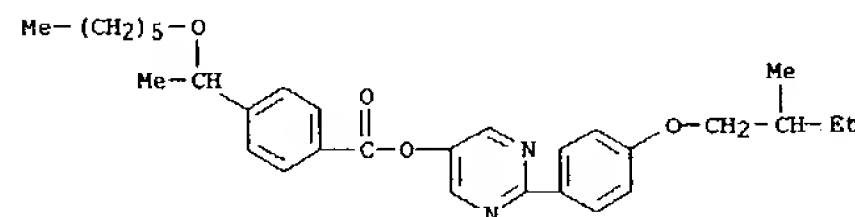
PAGE 1-A



L9 ANSWER 243 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:410418 CAPLUS
DOCUMENT NUMBER: 125:72569
TITLE: Liquid-crystalline aromatic esters with extended spiral pitch by optical activity in Ch phase and manufacture and uses thereof
INVENTOR(S): Fujimoto, Yukari; Matsumoto, Tsutomu; Minami, Masayoshi
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

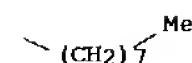
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08092137 | A2 | 19960409 | JP 1994-229636 | 19940926 |

PRIORITY APPLN. INFO.: JPP 1994-229636 19940926
OTHER SOURCE(S): MARPAT 125:72569
AB The title esters have the general formula R1(CO)ROpCH(CZ3)(CH2)mEkA1XA2OtE 1(CH2)nCH(CZ3)Oq(CO)sR2 (R1 = alkyl, alkoxyalkyl, H, F; X = CO2, O2C, direct bond; E = CH:CH, C.tplbond.C; Z H, F; A1, A2 = phenylene, pyridinediyl, pyrimidinediyl; i, j = 0-3; k, l, p, q, r, s, t = 0, 1; m, n = 0-8). Stirring (+)-4-(1-propoxyethyl)benzoic acid and (+)-4-(2-heptyloxypropyl)phenyl in dichloromethane in the presence of N,N-dicyclohexylcarbodiimide and 4-pyrrolidinopyridine at room temperature for 6 h gave 85% (+)-4-(1-heptyloxyethyl)phenyl 4-(1-propoxyethyl)benzoate.
IT 178417-61-3P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(liquid-crystalline aromatic esters with extended spiral pitch by optical activity in Ch phase and manufacture and uses thereof)
RN 178417-61-3 CAPLUS
CN Benzoic acid, 4-[1-(hexyloxy)ethyl]-, 2-[4-(2-methylbutoxy)phenyl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 242 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B

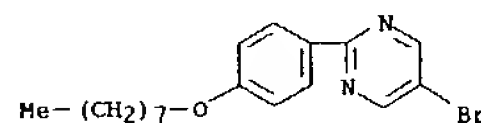


L9 ANSWER 244 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:410398 CAPLUS
DOCUMENT NUMBER: 125:86662
TITLE: Method for the cross-coupling of aromatic halo compounds or perfluoroalkanesulfonates with terminal alkynes
INVENTOR(S): Haber, Steffen; Manero, Javier; Beck, Gerhard; Lagouardat, Jacques
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| EP 709357 | A1 | 19960501 | EP 1995-115897 | 19951009 |

R: CH, DE, FR, GB, IT, LI, NL
DE 4438586 A1 19960502 DE 1994-4438586 19941028
DE 4438877 A1 19960502 DE 1994-4438877 19941031
CA 2161601 AA 19960429 CA 1995-2161601 19951027
JP 08245427 A2 19960924 JP 1995-280667 19951027
PRIORITY APPLN. INFO.: DE 1994-4438586 19941028
DE 1994-4438877 19941031

OTHER SOURCE(S): CASREACT 125:86662; MARPAT 125:86662
AB A method for the preparation of polynuclear aromatic compds. comprises the cross-coupling of terminal alkynes with aromatic halides or fluoroalkenesulfonates. The palladium-catalyzed reactions are carried out in the presence of a water-soluble ligand in a two-phase liquid reaction medium. Suitable ligands are polysulfonated 2,2'-bis(diphenylphosphinomethyl)-1,1'-binaphthalene sodium salts (BINAS) and trisodium tris(m-sulfophenyl)phosphine (TPPTS). Electrophilic functional groups such as ester groups or nitrile groups do not interfere with this chemoselective process. For example, the reaction of 5-bromo-2-(4-octyloxyphenyl)pyrimidine with 1-octyne in the presence of TPPTS/palladium acetate/diethylamine/copper iodide gave 5-(1-octynyl)-2-(4-octyloxyphenyl)pyrimidine which was hydrogenated to give 5-octyl-2-(4-octyloxyphenyl)pyrimidine.
IT 155802-47-4, 5-Bromo-2-(4-octyloxyphenyl)pyrimidine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of arylalkynes by cross-coupling of terminal alkynes with aryl halides or fluoroalkenesulfonates)
RN 155802-47-4 CAPLUS
CN Pyrimidine, 5-bromo-2-[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



9/811, 359

09/ 835,523

L9 ANSWER 245 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:402411 CAPLUS
DOCUMENT NUMBER: 125:128354
TITLE: Novel antiferroelectric liquid crystals with a trifluoromethyl group at the chiral center
AUTHOR(S): Aoki, Yoshio; Nohira, Hiroyuki
CORPORATE SOURCE: Dep. Appl. Chem., Saitama Univ., Saitama, 338, Japan
SOURCE: Ferroelectrics (1996), 178(1-4, Proceedings of the Fifth International Conference on Ferroelectric Liquid Crystals, 1995, Pt. 1), 213-220
CODEN: FEROA8; ISSN: 0015-0193
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The relation between mol. structure and antiferroelec. was studied for the antiferroelec. liquid crystals which did not have any carbonyl moiety in the mol. A chiral alkyl tail length had influence on phase transition temperature, enthalpy, spontaneous polarization (Ps) and tilt angle. Using a pair formation model of transverse dipole moments in adjacent smectic layers, the relation is discussed.

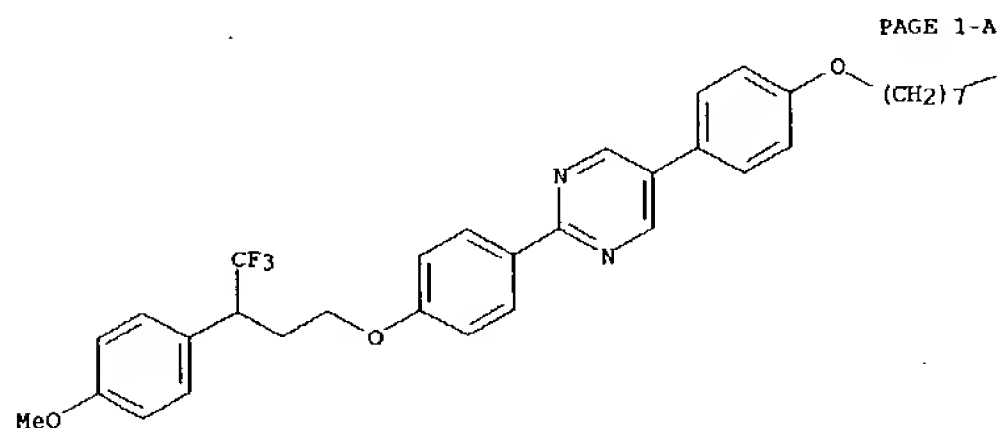
IT 167703-07-3
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(mol. structure-antiferroelec. relationship in liquid crystals of)

RN 167703-07-3 CAPLUS

CN Pyrimidine, 5-[4-(octyloxy)phenyl]-2-[4-[4,4,4-trifluoro-3-(4-methoxyphenyl)butoxy]phenyl]-, (-)- (9CI) (CA INDEX NAME)

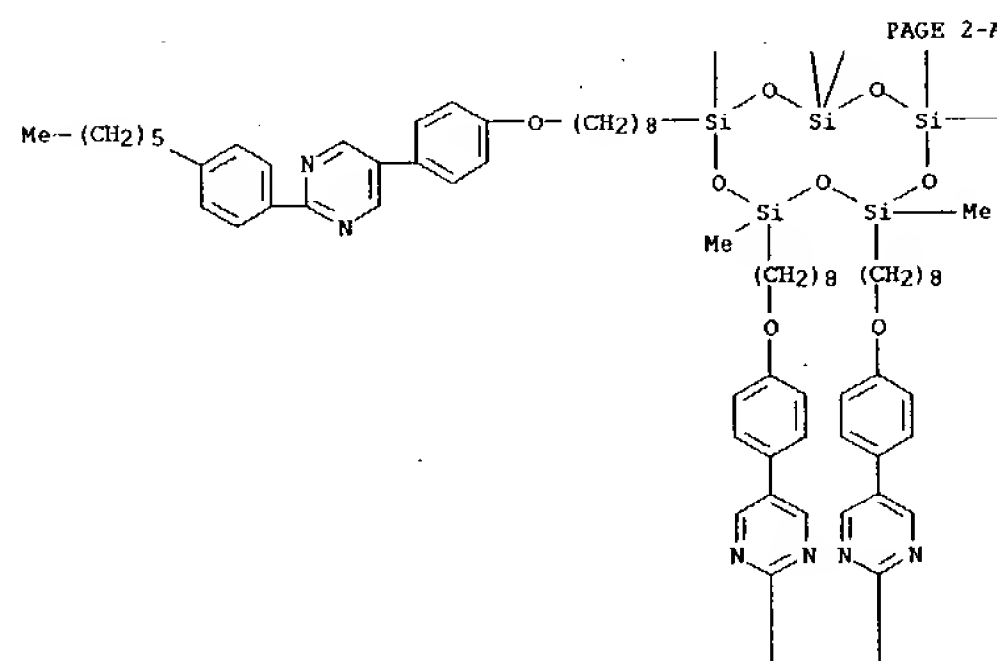
Rotation (-).



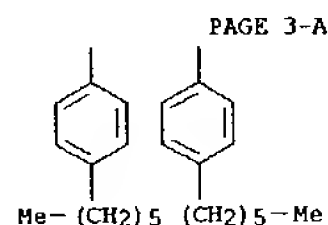
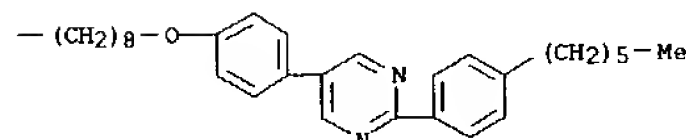
PAGE 1-B

Me

L9 ANSWER 246 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

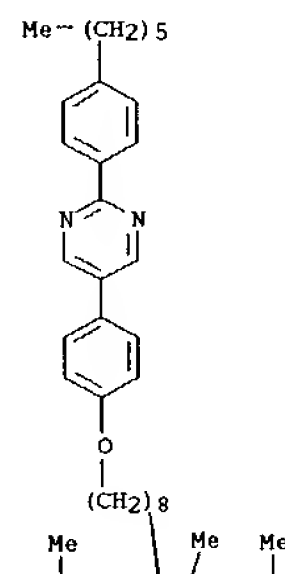


PAGE 2-B



L9 ANSWER 246 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:394978 CAPLUS
DOCUMENT NUMBER: 125:115635
TITLE: Microstructural characterization of high temperature ferroelectric liquid crystal polymers
AUTHOR(S): Ranganathaiah, C.; Parmar, D. S.; Wand, M. D.; Singh, J. J.
CORPORATE SOURCE: NASA-Langley Res. Cent., Hampton, VA, 23681-0001, USA
SOURCE: Ferroelectrics (1996), 177(3-4), 207-219
CODEN: FEROA8; ISSN: 0015-0193
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Phase transition characteristics of four high temperature ferroelec. liquid crystal polymers were investigated by means of DSC, optical polarization microscopy and positron annihilation spectroscopy. The free volume fraction, determined from ortho-positronium lifetime, affects the meso-phase thermodyn. of the liquid crystal polymers. The simple correlation between the free volume fraction and the range of the solid to smectic C transition temperature suggests that broader temperature range is possible if the mol. order is high and/or the free volume fraction is low.
IT 179796-28-2
RL: PRP (Properties)
(microstructural characterization of high temperature ferroelec. liquid crystal polymers)
RN 179796-28-2 CAPLUS
CN Pyrimidine, 5,5',5'',5''',5''''-[2,4,6,8,10-pentamethylcyclopentasiloxane-2,4,6,8,10-pentayl]pentakis(8,1-octanediylloxy-4,1-phenylene)bis[2-(4-hexylphenyl)- (9CI) (CA INDEX NAME)

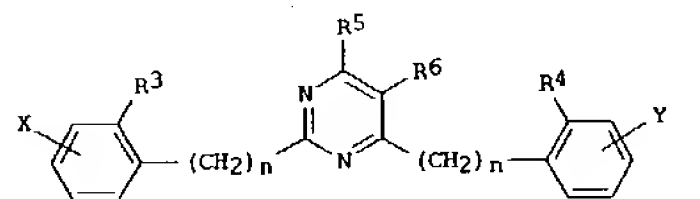
PAGE 1-A



L9 ANSWER 247 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:380213 CAPLUS
DOCUMENT NUMBER: 125:114682
TITLE: Methods of treating pneumocystis carinii pneumonia
INVENTOR(S): Boykin, David W.; Dykstra, Christine C.; Tidwell, Richard R.; Hall, James E.; Wilson, W. David; Kumar, Arvind
PATENT ASSIGNEE(S): University of North Carolina, USA
SOURCE: U.S., 13 pp., Cont.-in-part of U.S. Ser. No. 238,766.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 5521189 | A | 19960528 | US 1994-305823 | 19940913 |
| US 5723288 | A | 19980303 | US 1994-238766 | 19940506 |
| CA 2189125 | AA | 19951116 | CA 1995-2189125 | 19950505 |
| CN 1151209 | A | 19970604 | CN 1995-193470 | 19950505 |
| HU 76440 | A2 | 19970828 | HU 1996-3078 | 19950505 |
| US 5594138 | A | 19970114 | US 1995-453232 | 19950530 |
| US 5602172 | A | 19970211 | US 1995-453276 | 19950530 |
| US 5606058 | A | 19970225 | US 1995-455047 | 19950531 |
| US 5622955 | A | 19970422 | US 1995-456164 | 19950531 |
| US 5627184 | A | 19970506 | US 1995-454838 | 19950531 |
| US 5686456 | A | 19971111 | US 1995-564879 | 19951128 |
| PRIORITY APPLN. INFO.: | | | US 1994-238766 | A2 19940506 |
| | | | US 1994-305823 | A3 19940913 |
| | | | US 1994-339487 | B1 19941114 |

OTHER SOURCE(S): MARPAT 125:114682
GI



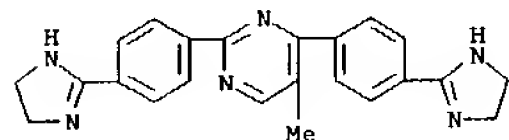
AB The present invention provides methods for treating Pneumocystis carinii pneumonia and Giardia lamblia in a subject in need of such treatment. The methods comprise administering to the subject a compound of formula I (X and Y are located in the para or meta positions and are selected from a group consisting of H, lower-alkyl, lower-alkoxy, and C(NR1)NR1R2, each R1 is independently selected from a group consisting of H, lower-alkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, or alkylaryl or two R1 groups together represent C2-C10 alkyl, hydroxyalkyl, or alkylene, or two R1 groups together represent aminoalkylaminocarbonylbenzo; R2-6 = H, OH, lower-alkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, cycloalkyl, aryl, lower-alkoxy, aryloxy, acylamino, halo, etc., n = 0-2). Among the approx. 40 compds. prepd were 2,4-diguanylpyrimidine and 2,4-bis(4-imidazolin-2-ylphenyl)pyrimidine.

IT 160522-95-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

9/811, 359

09/ 835, 523

L9 ANSWER 247 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 RN 160522-95-2 CAPLUS
 CN Pyrimidine, 2,4-bis[4-(4,5-dihydro-1H-imidazol-2-yl)phenyl]-5-methyl-
 (9CI) (CA INDEX NAME)



L9 ANSWER 248 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:359696 CAPLUS
 DOCUMENT NUMBER: 125:45261
 TITLE: Antiferroelectric liquid-crystal composition
 INVENTOR(S): Okabe, Nobuhiro; Hashimoto, Shigeji; Isozaki, Tadaaki; Hagiwara, Takashi; Suzuki, Giichi; Kawamura, Ichiro
 PATENT ASSIGNEE(S): Showa Shell Sekiyu, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 80 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08082778 | A2 | 19960326 | JP 1994-243320 | 19940912 |
| PRIORITY APPLN. INFO.: | | | JP 1994-243320 | 19940912 |

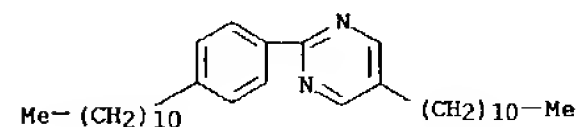
AB The antiferroelec. liquid-crystal composition contains ≥2 antiferroelec. liquid-crystal compds., or contains ≥1 antiferroelec. liquid-crystal compound and ≥1 ferroelec. liquid-crystal compound This composition can be used in a display device for fast response.

IT 177651-81-9
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal composition)

RN 177651-81-9 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-decyl-, 4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester, (R)-, mixt. with (R)-3-fluoro-4-[[[1-methylheptyl]oxy]carbonyl]phenyl 4'-dodecyl[1,1'-biphenyl]-4-carboxylate, (R)-4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl 4'-octyl[1,1'-biphenyl]-4-carboxylate, (R)-4-[[[1-(trifluoromethyl)pentyl]oxy]carbonyl]phenyl 4'-decyl[1,1'-biphenyl]-4-carboxylate, (R)-4-[[[1-(trifluoromethyl)pentyl]oxy]carbonyl]phenyl 4'-(undecyloxy)[1,1'-biphenyl]-4-carboxylate and 5-undecyl-2-(4-undecylphenyl)pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 177651-80-8
 CMF C32 H52 N2

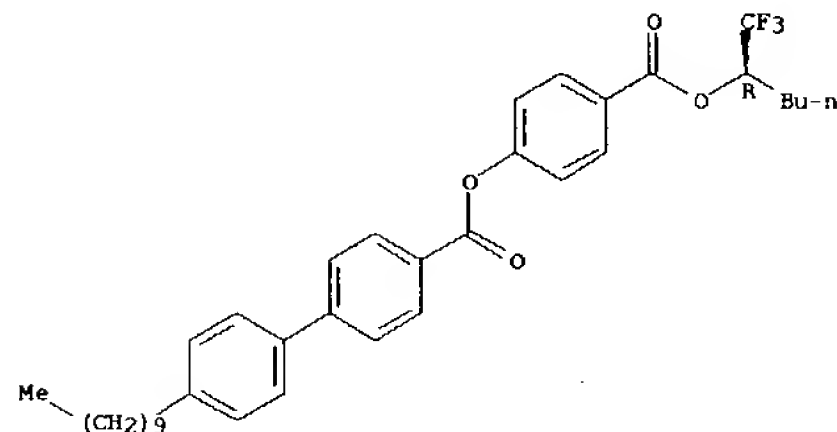


CM 2

CRN 177651-41-1
 CMF C36 H43 F3 O4

Absolute stereochemistry.

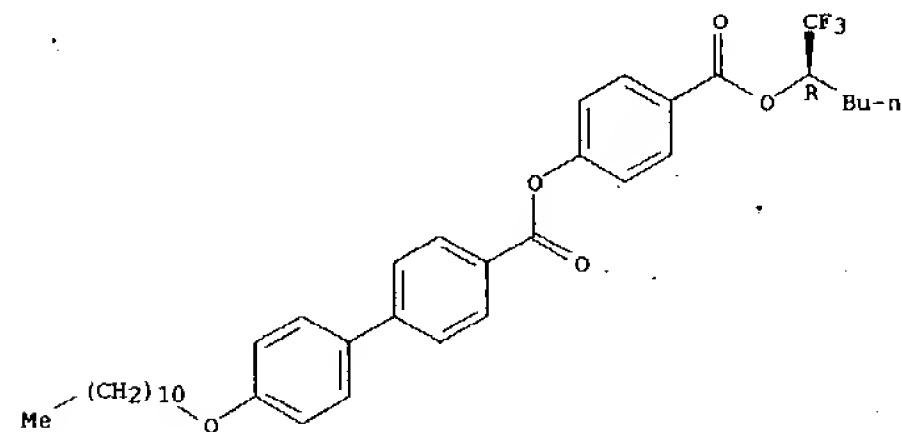
L9 ANSWER 248 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3

CRN 177651-40-0
 CMF C37 H45 F3 O5

Absolute stereochemistry.

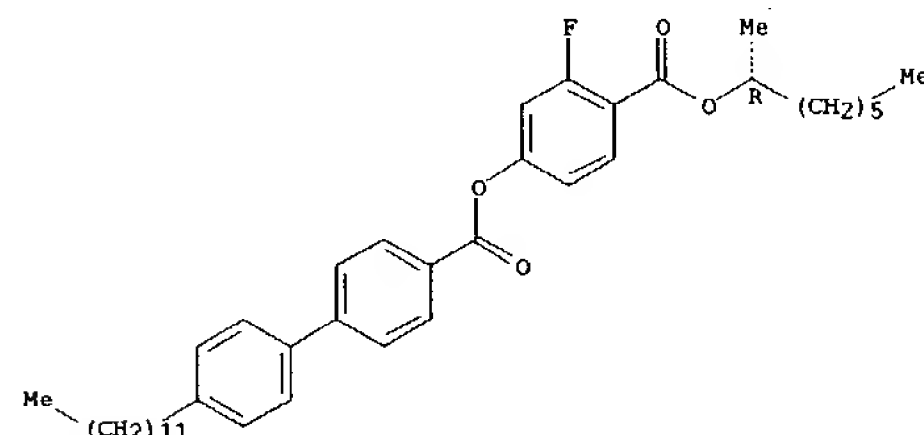


CM 4

CRN 173926-67-5
 CMF C40 H53 F 04

Absolute stereochemistry.

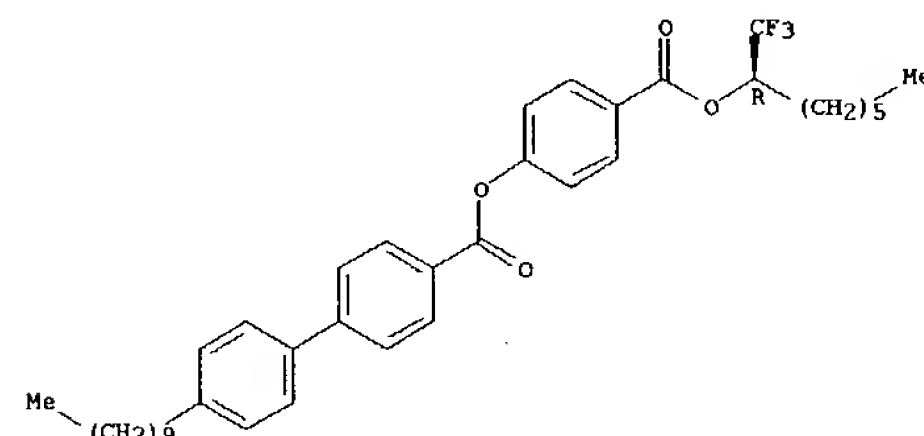
L9 ANSWER 248 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 5

CRN 170636-31-4
 CMF C38 H47 F3 O4

Absolute stereochemistry.



CM 6

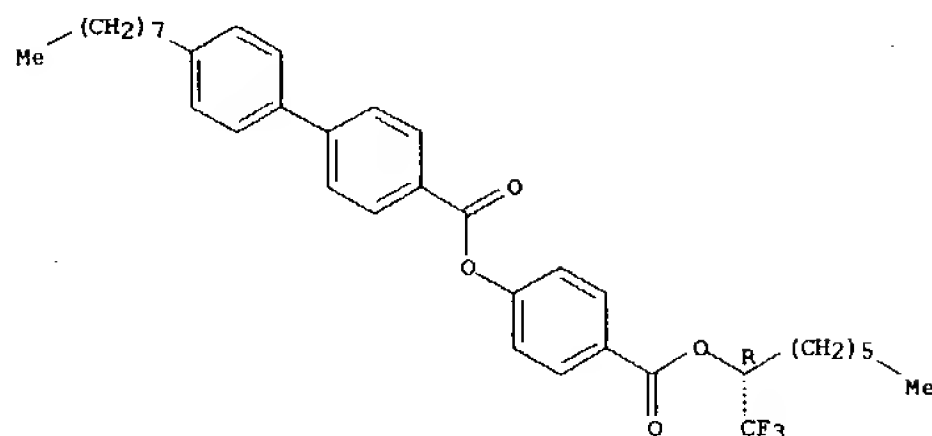
CRN 157919-09-0
 CMF C36 H43 F3 O4

Absolute stereochemistry.

9/811, 359

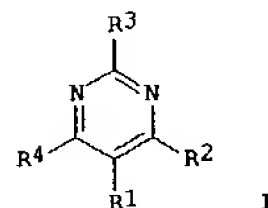
09/ 035, 523

L9 ANSWER 248 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

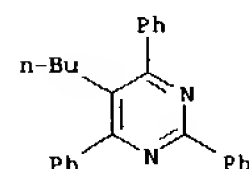


L9 ANSWER 249 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:349691 CAPLUS
 DOCUMENT NUMBER: 125:10845
 TITLE: Preparation of pyrimidine derivatives
 INVENTOR(S): Ichikawa, Atsushi; Kobayashi, Masakuni; Minami, Tooru
 PATENT ASSIGNEE(S): Nippon Kasei Chem, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

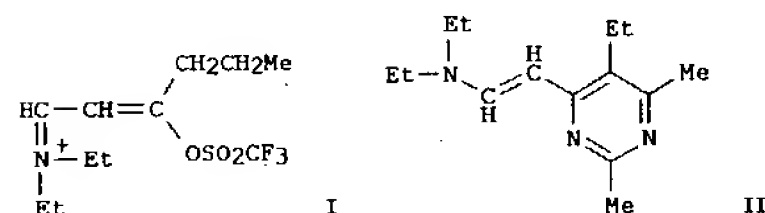
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 08073440 | A2 | 19960319 | JP 1994-230377 | 19940831 |
| PRIORITY APPLN. INFO.: | | | JP 1994-230377 | 19940831 |
| OTHER SOURCE(S): | | MARPAT 125:10845 | | |
| GI | | | | |



AB The title compds. I [R1 - R3 = H, hydrocarbon; R4 = hydrocarbon] are prepared by reaction of fluoropyrimidine derivs. with nucleophilic agents. I [R1 = butyl; R2 = R3 = R4 = phenyl] was prepared in 94% yield by reaction of I [R4 = F; R1 = butyl; R2 = R3 = phenyl] with Ph lithium.
 IT 177498-31-6P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of pyrimidine derivs.)
 RN 177498-31-6 CAPLUS
 CN Pyrimidine, 5-butyl-2,4,6-triphenyl- (9CI) (CA INDEX NAME)



L9 ANSWER 250 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:332004 CAPLUS
 DOCUMENT NUMBER: 125:114559
 TITLE: Synthesis of pyrimidines from 3-trifluoromethylsulfonyloxypenteniminium triflates and nitriles; molecular and crystal structure of the 1:1 and 1:2 adducts of a 4-(2-diethylaminovinyl)pyrimidine with triflic acid
 AUTHOR(S): Rahm, Rainer; Maas, Gerhard
 CORPORATE SOURCE: Fachbereich Chemie, Univ. Kaiserslautern, Kaiserslautern, D-67663, Germany
 SOURCE: Journal of Heterocyclic Chemistry (1996), 33(2), 439-446
 CODEN: JHTCAD; ISSN: 0022-152X
 PUBLISHER: HeteroCorporation
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

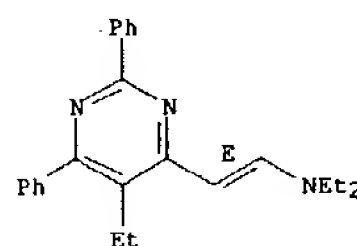


AB The reaction of (E)- and (Z)-N-ethyl-N-[3-[[[(trifluoromethyl)sulfonyl]oxy]-2-hexenylidene]ethanaminium triflates I with two equivalent of an aliphatic nitrile or of benzonitrile gave 4-(2-diethylaminovinyl)pyrimidinedium bis(triflates), which were deprotonated to give protonated or neutral pyrimidines. An example compound thus prepared is (E)-N,N-diethyl-2-(5-ethyl-2,4-dimethyl-6-pyrimidinyl)-1-ethenamine (II).. When a related iminium salt, 4-[1-phenyl-3-[[[(trifluoromethyl)sulfonyl]oxy]-2-pentenylidene]morpholinium triflate, was heated in acetonitrile at 140°, 1,5-cyclization of the cation leading to an indane derivative competed with the formation of a pyrimidinium salt. X-ray crystal structure determination revealed significant differences in the bond lengths of mono- and diprotonated 4-(2-diethylaminovinyl)pyrimidines.
 IT 178904-96-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of vinylpyrimidines from [[[(trifluoromethyl)sulfonyl]oxy]alkenylidene]aminium compds. and nitriles)
 RN 178904-96-6 CAPLUS
 CN Methanesulfonic acid, trifluoro-, compd. with (E)-N,N-diethyl-2-(5-ethyl-2,6-diphenyl-4-pyrimidinyl)ethenamine (2:1) (9CI) (CA INDEX NAME)

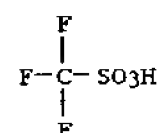
CM 1
 CRN 178904-95-5
 CMF C24 H27 N3

Double bond geometry as shown.

L9 ANSWER 250 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2
 CRN 1493-13-6
 CMF C H F3 O3 S



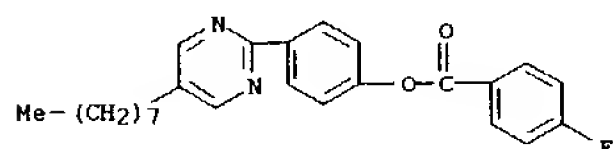
9/811, 359

09/835,523

L9 ANSWER 251 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:326196 CAPLUS
 DOCUMENT NUMBER: 124:356414
 TITLE: Liquid crystal, liquid crystal composition, liquid crystal device, displaying method and apparatus
 INVENTOR(S): Tokano, Goji; Takiguchi, Takao; Iwaki, Takashi; Yamada, Yoko; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08062560 | A2 | 19960308 | JP 1994-216786 | 19940819 |
| PRIORITY APPLN. INFO.: | | JP 1994-216786 19940819 | | |

OTHER SOURCE(S): MARPAT 124:356414
 AB The title liquid crystal is represented by R1A1A2X1(CH2)2X2A3 [R1 = F, CN, CF3, (F-substituted) C1-20 alkyl in which ≥2 CH2-groups may be substituted by O, S, CO, CZ1Z2, CH:CH, C.tplbond.C; Z1, Z2 = H, F, CH2F, CHF2, CF3, CN, C1-5 linear alkyl; X1 = single bond, O, COO, OCO, OCH2; X2 = single bond, O, COO, OCO, CH2O; A1, A2 = (halo-substituted) 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl; A3 = Ph]. The liquid crystal is suitable for fast-response liquid crystal displays with high contrast.
 IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition for liquid crystal display)
 RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



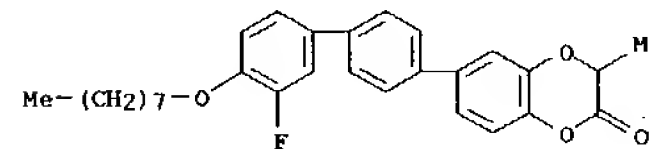
L9 ANSWER 252 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:315190 CAPLUS
 DOCUMENT NUMBER: 124:356400
 TITLE: Trifluoromethyl benzene derivative and liquid crystal composition for liquid crystal display
 INVENTOR(S): Tsucha, Kazuhiko; Suzuki, Kenji; Kuroiwa, Kenji
 PATENT ASSIGNEE(S): Kanto Kagaku, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 08040953 | A2 | 19960213 | JP 1994-211660 | 19940803 |
| PRIORITY APPLN. INFO.: | | JP 1994-211660 19940803 | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

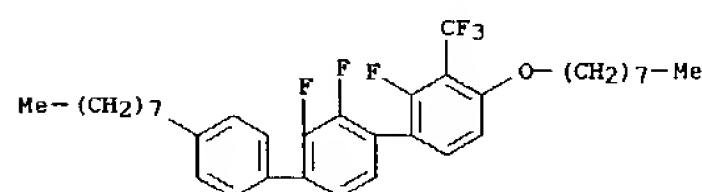
AB The title derivative is represented by I, II, III or IV (R1 = C1-14 alkyl, alkoxy; R2 = C1-14 alkyl; L1-4 = H, F; Y = single bond, O, COO, OCO; Z = single bond, O; X = H, F). The title composition contains ≥1 kinds of the above derivs.
 IT 176789-74-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal composition for liquid crystal display)
 RN 176789-74-5 CAPLUS
 CN 1,4-Benzodioxin-2(3H)-one, 6-[3'-fluoro-4'-(octyloxy)[1,1'-biphenyl]-4-yl]-3-methyl-, mixt. with 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 2,2',3'-trifluoro-4''-octyl-4-(octyloxy)-3-(trifluoromethyl)-1,1':4',1''-terphenyl (9CI) (CA INDEX NAME)

CM 1
 CRN 176789-73-4
 CMF C29 H31 F 04

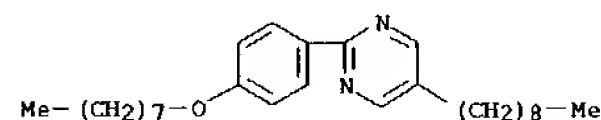


CM 2
 CRN 176789-48-3

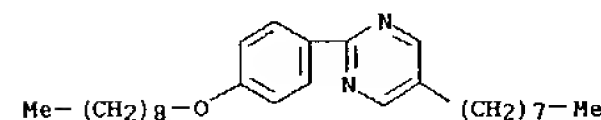
L9 ANSWER 252 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C35 H42 F6 O



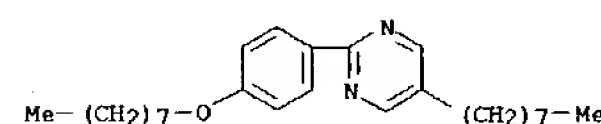
CM 3
 CRN 57202-58-1
 CMF C27 H42 N2 O



CM 4
 CRN 57202-51-4
 CMF C27 H42 N2 O

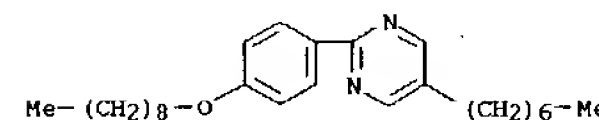


CM 5
 CRN 57202-50-3
 CMF C26 H40 N2 O



CM 6
 CRN 57202-40-1
 CMF C26 H40 N2 O

L9 ANSWER 252 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



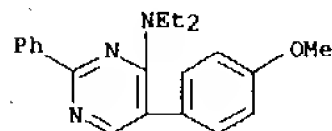
9/811,359

09/ 835,523

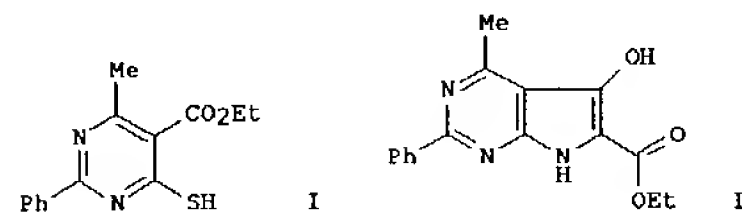
L9 ANSWER 253 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:309996 CAPLUS
 DOCUMENT NUMBER: 125:58455
 TITLE: Isothiazoles. Part VI. Cycloaddition of azides to isothiazole dioxides: synthesis of thiadiazabicyclo[3.1.0]hexene derivatives and their thermal rearrangement to thiazete dioxides, 1,2,6-thiadiazine dioxides and pyrazoles
 AUTHOR(S): Clerici, Francesca; Galletti, Franco; Pocar, Donato; Roversi, Pietro
 CORPORATE SOURCE: Ist. Chim. Org., Univ. Milano, Milan, I-20133, Italy
 SOURCE: Tetrahedron (1996), 52(20), 7183-7200
 CODEN: TETRA; ISSN: 0040-4020
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

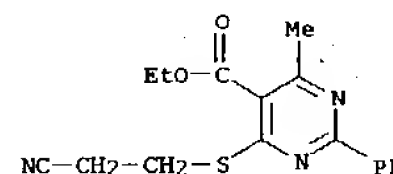
AB 3-Diethylamino-4-(4-methoxyphenyl)isothiazole 1,1-dioxide was made to react with arylalkyl- and aryl azides RN3 (R = PhCH2, PhCH2CH2, Ph, 4-MeOC6H4, 4-O2NC6H4). Cycloadducts I, which could be isolated in some cases, afforded N-arylalkyl- or N-arylthiadiazabicyclo[3.1.0]hexene derivs. II through N2-elimination. Thermal rearrangements of N-aryl- and N-β-phenylethyl substituted compds. II (R = PhCH2CH2, Ph, 4-MeOC6H4, 4-O2NC6H4), produced derivs. of 1,2-thiazete 1,1-dioxide III, 1,2,6-thiadiazine 1,1-dioxide IV and pyrazole V. The reaction can be optimized to afford compds. IV in synthetically useful yield. In the case of N-benzyl-thiadiazabicyclo[3.1.0]hexene derivative II (R = PhCH2), the different substitution on the aziridine nitrogen produced a different reaction course, affording the thiadiazine derivative IV and the pyrimidine derivative VI.
 IT 178314-35-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of thiadiazabicyclohexenes and their thermal rearrangement to thiazete dioxides, thiadiazine dioxides, and pyrazoles)
 RN 178314-35-7 CAPLUS
 CN 4-Pyrimidinamine, N,N-diethyl-5-(4-methoxyphenyl)-2-phenyl- (9CI) (CA INDEX NAME)



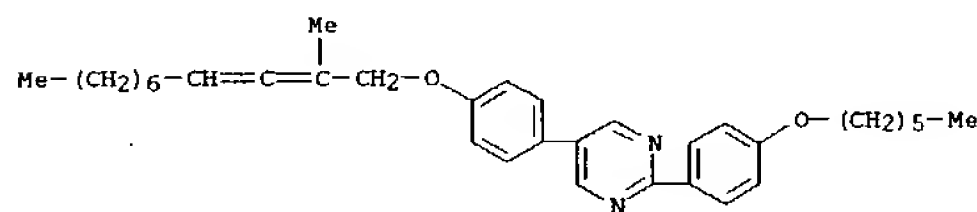
L9 ANSWER 254 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:309834 CAPLUS
 DOCUMENT NUMBER: 125:58437
 TITLE: Some reactions with ethyl 4-(mercapto/chloro)-6-methyl-2-phenylpyrimidine-5-carboxylate
 AUTHOR(S): Assy, M. G.; El-Bahaie, S.; Ibrahim, M. R.; Ibrahim, Y. A.
 CORPORATE SOURCE: Fac. Sci., Zagazig Univ., Zagazig, Egypt
 SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1996), 35B(6), 598-601
 CODEN: IJSBDB; ISSN: 0376-4699
 PUBLISHER: Publications & Information Directorate, CSIR
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Michael adducts, transesters, and the 4-chloro derivative have been synthesized from 4-mercaptopyrimidine I. The 4-chloro derivative underwent further reaction; for example, reaction with Et glycinate gave pyrrolopyrimidinecarboxylate II.
 IT 178380-66-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (addition and substitution reactions of mercapto/chloro-pyrimidinecarboxylate)
 RN 178380-66-0 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-[(2-cyanoethyl)thio]-6-methyl-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)



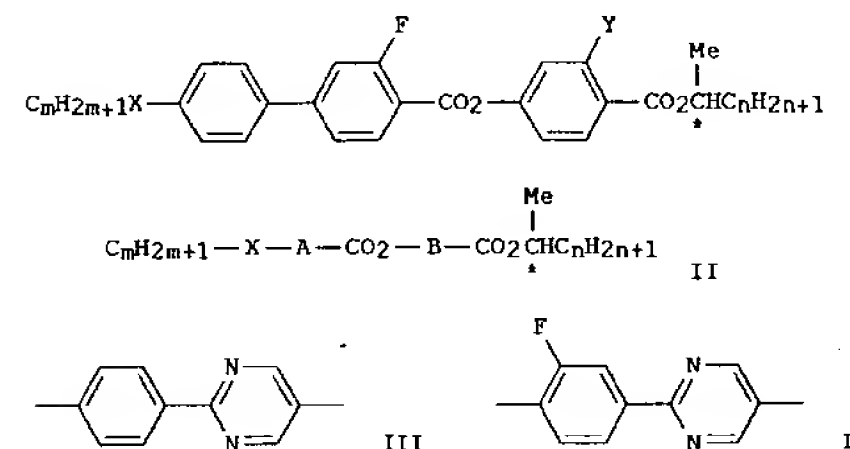
L9 ANSWER 255 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:281845 CAPLUS
 DOCUMENT NUMBER: 124:328958
 TITLE: Liquid-crystalline allene derivatives
 AUTHOR(S): Zab, Kerstin; Kruth, Holger; Tschierske, Carsten
 CORPORATE SOURCE: Inst. Organische Chemie, Martin-Luther-Univ. Halle, Halle, D-06120, Germany
 SOURCE: Chemical Communications (Cambridge) (1996), (8), 977-978
 CODEN: CHCOFS; ISSN: 1359-7345
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis of the 1st liquid-crystalline allene derivs. with chiral smectic C-phases is reported.
 IT 176678-90-3P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and liquid crystal properties of)
 RN 176678-90-3 CAPLUS
 CN Pyrimidine, 2-[4-(hexyloxy)phenyl]-5-[4-[(2-methyl-2,3-undecadienyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 256 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:280528 CAPLUS
 DOCUMENT NUMBER: 124:302766
 TITLE: Optically active compound for antiferroelectric liquid-crystal composition
 INVENTOR(S): Takeuchi, Akira; Hayashi, Hitoshi; Ezaka, Kazuaki
 Suenaga, Hitoshi; Tabayashi, Kazuaki
 PATENT ASSIGNEE(S): Nippon Soken, Japan; Teikoku Hormone Mfg Co Ltd
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 08060156 | A2 | 19960305 | JP 1994-198388 | 19940823 |
| PRIORITY APPLN. INFO.: | | | JP 1994-198388 | 19940823 |
| OTHER SOURCE(S): | | | MARPAT 124:302766 | |

GI



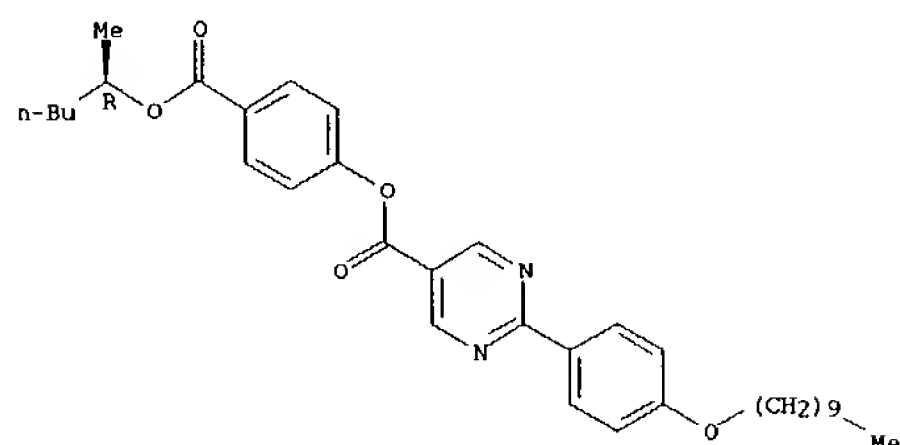
AB The optically active compound has a structure I or II (m = 6-14; n = 3-10; X = single bond, O, CO2; Y = H, F; * = asym. C; A = III, IV; B = 1,4-phenylene, 2-fluoro-1,4-phenylene). Also claimed is an antiferroelec. liquid-crystal compn containing the above compound
 IT 176223-68-0P
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
 (antiferroelec. liquid-crystal composition from)
 RN 176223-68-0 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 2-[4-(decyloxy)phenyl]-, 4-[[[1-methylpentyl]oxy]carbonyl]phenyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

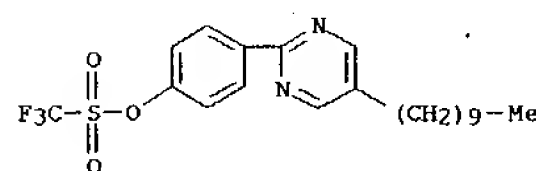
9/811, 259

09/835,523

L9 ANSWER 256 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



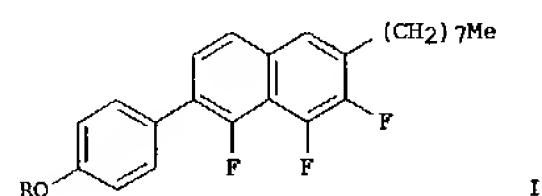
L9 ANSWER 257 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:253101 CAPLUS
 DOCUMENT NUMBER: 125:32885
 TITLE: An efficient procedure for palladium-catalyzed hydroformylation of aryl/enol triflates
 AUTHOR(S): Kotsuki, Hiroyoshizo; Datta, Probal Kanti; Suenaga, Hitoshi
 CORPORATE SOURCE: Faculty Science, Kochi Univ., Kochi, 780, Japan
 SOURCE: Synthesis (1996), (4), 470-2
 CODEN: SYNTBF; ISSN: 0039-7881
 PUBLISHER: Thieme
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 125:32885
 AB An efficient method for hydroformylation of aryl and enol trifluoromethanesulfonates is presented. Their reaction with CO, trioctylsilane, and Et3N in the presence of a catalytic amount of Pd(OAc)2 and 1,3-bis(diphenylphosphanyl)propane proceeds efficiently to provide a variety of aromatic and α,β -unsatd. aldehydes.
 IT 173346-92-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of aromatic and α,β -unsatd. aldehydes by palladium-catalyzed hydroformylation of aryl/enol triflates)
 RN 173346-92-4 CAPLUS
 CN Methanesulfonic acid, trifluoro-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



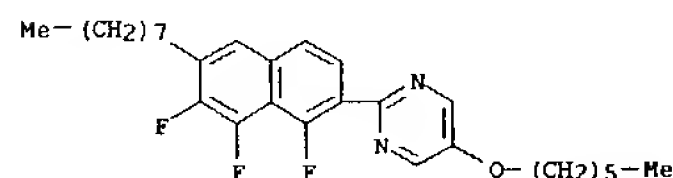
L9 ANSWER 258 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:209654 CAPLUS
 DOCUMENT NUMBER: 124:260617
 TITLE: Preparation of trifluornaphthalene derivatives as liquid crystal components
 INVENTOR(S): Manero, Javier; Fuss, Robert Walter; Hornung, Barbara
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 69 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|------------------|----------|
| DE 19522195 | A1 | 19951221 | DE 1995-19522195 | 19950619 |
| PRIORITY APPLN. INFO.: | | DE 1994-4421547 | 19940620 | |
| OTHER SOURCE(S): | | MARPAT 124:260617 | | |

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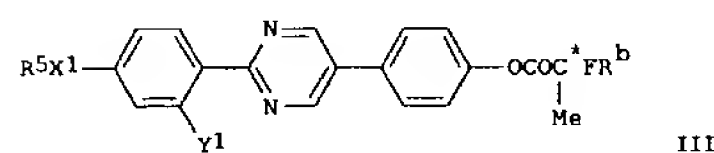
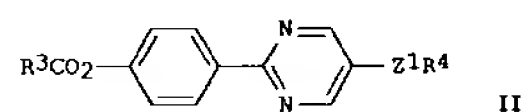
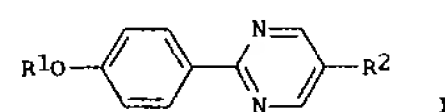
AB R1M1aA1bM2cA2dM3eZM4fA3gM5hA4iM6kR2 [A1-A4 = (un)substituted 1,4-phenylene, pyrazin-2,5-diyl, pyridin-2,5-diyl, etc.; M1-M6 = bond, O, S, CO, CH:CH, etc.; R1,R2 = H, cyano, F, Cl, CF3, etc.; Z = 3,4,5-trifluoro-2,6-naphthylene] were prepd. as liquid crystal components (no data). Thus, hydroxyphenylnaphthalene I (R = H) was etherified by 1-bromooctane to give I (R = Octyl).
 IT 175073-77-5P
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of trifluornaphthalene derivs. as liquid crystal components)
 RN 175073-77-5 CAPLUS
 CN Pyrimidine, 5-(hexyloxy)-2-(1,7,8-trifluoro-6-octyl-2-naphthalenyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 259 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:205324 CAPLUS
 DOCUMENT NUMBER: 124:274669
 TITLE: Liquid crystal optical devices using specific ferroelectric liquid crystal composition
 INVENTOR(S): Fukushima, Akyuki; Yoshizawa, Atsushi; Matsui, Eriko; Nito, Keiichi; Yasuda, Akio
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan; Sony Corp.
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 08006029 | A2 | 19960112 | JP 1994-134213 | 19940616 |
| PRIORITY APPLN. INFO.: | | JP 1994-134213 | 19940616 | |
| OTHER SOURCE(S): | | MARPAT 124:274669 | | |

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AB The title optical devices comprise a ferroelec. liquid crystal composition obtained by adding, ≥ 1 compound p-R7X2C6H4Y2C6H4Z2R8-p (IV) to a liquid crystal composition containing ≥ 1 compound of I or II and ≥ 1 compound III (R1-8 = alkyl; X1, Z1 = O, single bond; Y1 = H, F; X2 = OCO, O, single bond; Y2 = OCO, single bond; Z2 = O, OCO; C* indicates optical active asym. C atom), and charged in a cell formed by assembly of orientation films made of Si oxide rhombic vapor deposited films in parallel or antiparallel direction. The devices show high contrast and quick response and can be used in wider temperature ranges. Thus, a liquid crystal display device was prepared by using a ferroelec. liquid crystal composition comprising I (R1 = C6H13, R2 = C8H17), III (R5 = C6H13, X1 = O, Y1 = F, R6 = C5H11), and IV (R7 = C4H9, X2 = OCO, Y2 = single bond; Z2 = O, R6 = C8H17).
 IT 175221-91-7
 RL: DEV (Device component use); USES (Uses)
 (optical device comprising ferroelec. liquid crystal composition and silicon oxide rhombic vapor-deposited cell)
 RN 175221-91-7 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, butyl ester, mixt. with 2-[2-fluoro-4-(hexyloxy)phenyl]-5-pyrimidinyl 2-fluoro-2-methylheptanoate

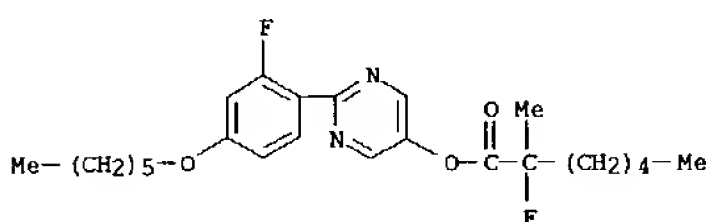
9/8/11, 359

09/ 835,523

L9 ANSWER 259 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
and 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine (9CI) (CA INDEX NAME)

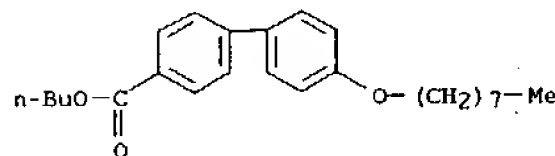
CM 1

CRN 175221-90-6
CMF C24 H32 F2 N2 O3



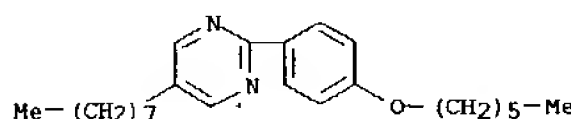
CM 2

CRN 61966-09-4
CMF C25 H34 O3

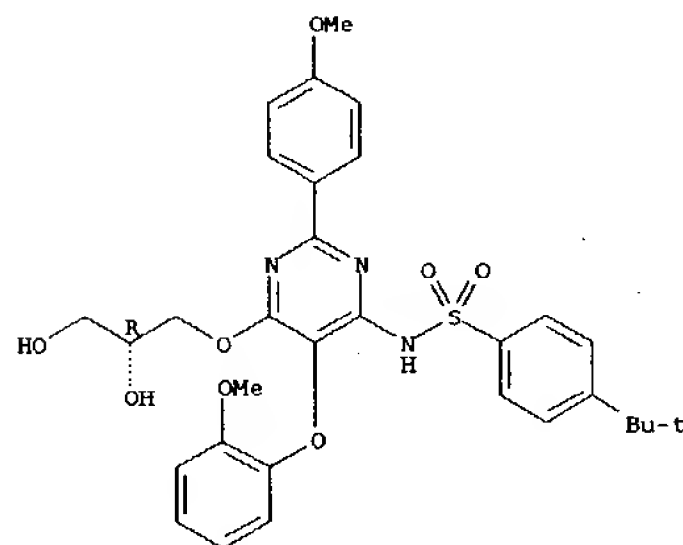


CM 3

CRN 57202-48-9
CMF C24 H36 N2 O



L9 ANSWER 260 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 260 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:200793 CAPLUS
DOCUMENT NUMBER: 124:279117

TITLE: In vitro characterization of Ro 46-8443, the first non-peptide antagonist selective for the endothelin ETB receptor
AUTHOR(S): Breu, Volker; Clozel, Martine; Burri, Kaspar; Hirth, Georges; Neidhart, Werner; Ramuz, Henri
CORPORATE SOURCE: Pharma Division, Preclinical Research, c/o F.Hoffmann-La Roche Ltd., Grenzacherstrasse 124, Basel, CH-4070, Switz.

SOURCE: FEBS Letters (1996), 383(1,2), 37-41
CODEN: FEBLAL; ISSN: 0014-5793

PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We describe here Ro 46-8443, the first non-peptide endothelin ETB receptor selective antagonist. It displays up to 2000-fold selectivity for ETB receptors both in terms of binding inhibitory potency and functional inhibition. The observed parallel rightward shift of concentration-response

curves with different antagonist concns. is consistent with a competitive binding mode. Since Ro 46-8443 selectively inhibits ETB receptor mediated responses, it is a valuable tool for clarifying the role of ETB receptors in pathol.

IT 175556-12-4, Ro 46-8443
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(characterization of Ro 46-8443, the first non-peptide antagonist selective for the endothelin ETB receptor)

RN 175556-12-4 CAPLUS

CN Benzenesulfonamide, N-[6-[(2R)-2,3-dihydroxypropoxy]-5-(2-methoxyphenoxy)-2-(4-methoxyphenyl)-4-pyrimidinyl]-4-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 261 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:193444 CAPLUS
DOCUMENT NUMBER: 124:275039

TITLE: Novel 2-(4-octylphenyl)pyridin-5-yl alkanates and alkenates: influence of dipoles and chain conformation on smectic C formation

AUTHOR(S): Kelly, S. M.; Fuenfschilling, J.
CORPORATE SOURCE: ROLIC Ltd., Basel, CH-4002, Switz.
SOURCE: Liquid Crystals (1996), 20(1), 77-93
CODEN: LICRE6; ISSN: 0267-8292

PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English

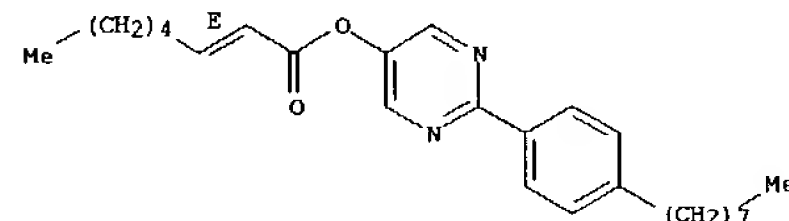
AB 2-(4-Octylphenyl)pyridin-5-yl alkanates were synthesized and found to exhibit smectic mesomorphism including the smectic C phase. The influence on the transition temps. of introducing a C-C double bond on the terminal alkenoyloxy (ester) chain of the alkanates to produce the corresponding alkenates also was studied. The position and configuration of the double bond was changed systematically to determine the optimal configuration and conformation of the terminal chains for smectic C formation. The observed results are consistent with a linearly-extended (alternately cis and trans) conformation of the chain. The dependence of the transition temps. on chain length was studied for one homologous series each of the alkanates and the (E)-alk-2-enates. The new esters are constitutional isomers of the 5-(4-octylphenyl)pyridin-2-yl alkanates and alkenates previously synthesized (differing only in the position of the N atom). Comparisons revealed consistently higher smectic C transition temps. and lower ordered smectic tendencies for the new esters. The dependence of smectic C formation on the position and number of dipoles associated with O atoms, N atoms and carboxy groups was also studied. Several of the new esters exhibit remarkably low viscosity values (i.e. short response times) in an optically active base mixture used for evaluation and comparison purposes.

IT 175412-42-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and liquid crystal properties of)

RN 175412-42-7 CAPLUS

CN 2-Octenoic acid, 2-(4-octylphenyl)-5-pyrimidinyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



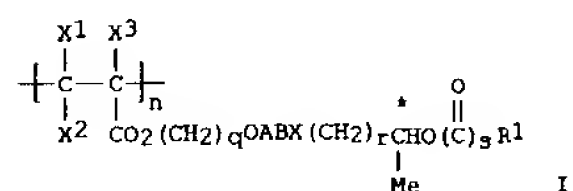
9/811, 359

09/835,523

L9 ANSWER 262 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:179122 CAPLUS
 DOCUMENT NUMBER: 124:274662
 TITLE: Ferroelectric liquid crystal composition and display element
 INVENTOR(S): Tsubata, Yoshiaki; Ueda, Kayoko; Fujisawa, Koichi; Azumai, Takayuki; Minami, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 08003557 | A2 | 19960109 | JP 1994-144867 | 19940627 |
| PRIORITY APPLN. INFO.: | | | JP 1994-144867 | 19940627 |

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AB The composition contains a liquid crystal polymer I [A, B = 1,4-phenylene which may be substituted for F, 2,5-pyridine, 2,5-pyrimidine, 2,5-pyridine, 3,6-pyridazine, 4,4'-biphenyl, 5-(2-phenylpyrimidine), 2-(5-phenylpyrimidine), 2-(5-phenylpyridine), 2,6-naphthalene, 2,6-quinoline, 2,6-quinoxaline, 2,6-quinazoline, 1 of A and B is bond; X1-3 = H, lower alkyl; R1 = C1-20 (un)saturated alkyl, C3-20 (un)saturated alkoxyalkyl, both may be substituted for halo; X = (CH2)2, CH:CH, C.tplbond.C, bond; q = 1-15, r = 0-6, s = 0-1, C* = asym. C atom] with number average mol. weight 1000-50,000 and a ferroelec. liquid crystal compound other than

I. The ferroelec. compound may be R2ZkAWBU(CH2)rCHMeO(CO)sR3 [II: A, B are same as above; R2 = C3-20 alkyl; R3 is same as R1; U = O, (CH2)2, CH:CH, C.tplbond.C, bond; W = COO, OCO, bond; Z = O, COO, OCO, r = 0-6, s, k = 0, 1; C* = asym. C]. Liquid crystal display device using the composition containing

I or II is claimed. The composition shows good shock resistance and is useful for large-scale and cured displays.

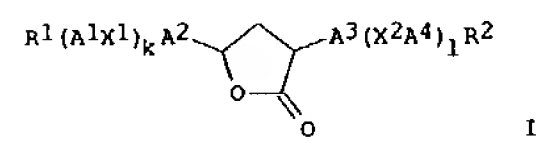
IT 175343-77-8
 RL: DEV (Device component use); USES (Uses)
 (polymer liquid crystal composition for display devices)

RN 175343-77-8 CAPLUS
 CN 2-Propenoic acid, 10-[[2-[4-(6-ethoxyheptyl)phenyl]-5-pyrimidinyl]oxy]decyl ester, mixt. with 5-(decyloxy)-2-[4-(6-ethoxyheptyl)phenyl]pyrimidine (9CI) (CA INDEX NAME)

L9 ANSWER 263 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:170759 CAPLUS
 DOCUMENT NUMBER: 124:302700
 TITLE: Optically active compound, liquid crystal composition containing it, high contrast liquid crystal device with fast response time using the composition, display apparatus and display method
 INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi; Yamada, Yoko
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07309857 | A2 | 19951128 | JP 1994-124671 | 19940516 |
| PRIORITY APPLN. INFO.: | | | JP 1994-124671 | 19940516 |

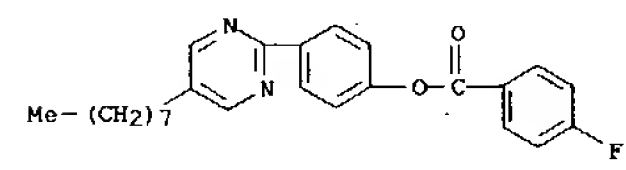
GI



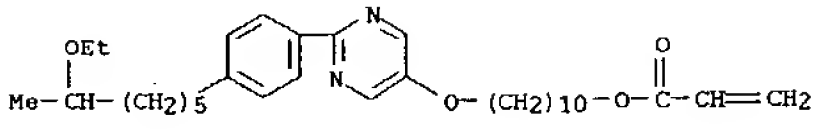
AB The title compound is represented by I (R1, R2 = halo, H, CN, C2-30 alkyl; A1-4 = 1,4-phenylene, 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl, etc.; K, L = O, 1; X1, X2 = single bond, COO, OCO, CH2O, OCH2, CH2CH2, C.tplbond.C). The title chiral smectic composition contains 1-80 % of the optically active compound

IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition for liquid crystal device)

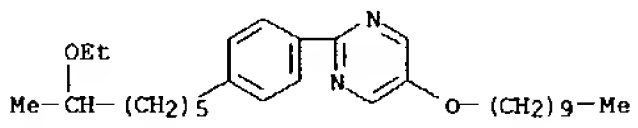
RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 262 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM 1
 CRN 165320-61-6
 CMF C32 H48 N2 O4



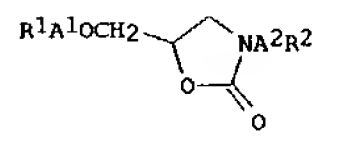
CM 2
 CRN 157790-13-1
 CMF C29 H46 N2 O2



L9 ANSWER 264 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:170758 CAPLUS
 DOCUMENT NUMBER: 124:302699
 TITLE: Optically active compound capable of providing high contrast, liquid crystal composition containing it, ferroelectric liquid crystal device, display method and display apparatus
 INVENTOR(S): Iwaki, Takashi; Takiguchi, Takao; Tokano, Goji; Nakamura, Shinichi; Yamada, Yoko
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07309850 | A2 | 19951128 | JP 1994-124716 | 19940516 |
| PRIORITY APPLN. INFO.: | | | JP 1994-124716 | 19940516 |

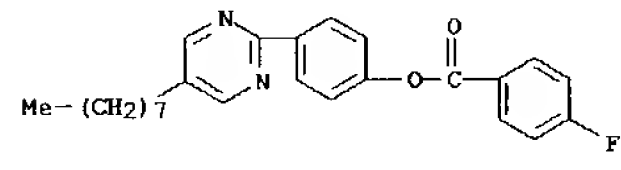
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AB The title compound is represented by I (R1, R2 = H, halo, CN, C1-30 alkyl; A2 = 1,4-phenylene (containing F, Cl, Br, Me, CF3, or CN substituents), pyrimidine-2,5-diyl, pyridine-2,5-diyl, thiophene-2,5-diyl, 2,6-naphthylene, etc.; A1 = A2, 1,4-cyclohexylene, 1,3-dioxane-2,5-diyl, 1,3-dithiane-2,5-diyl).

IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition for liquid crystal display)

RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



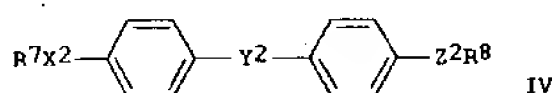
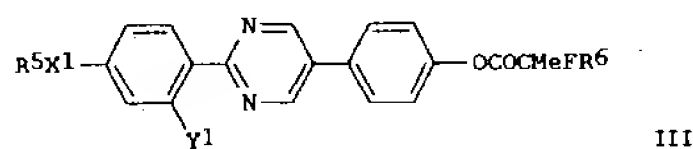
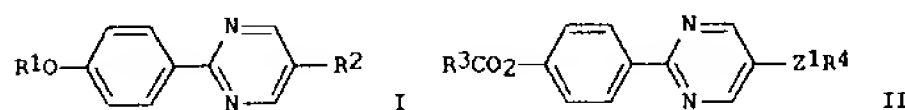
9/811,359

09/835,523

L9 ANSWER 265 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:168112 CAPLUS
 DOCUMENT NUMBER: 124:274113
 TITLE: Ferroelectric liquid crystal composition and optical switching device using it
 INVENTOR(S): Fukushima, Akyuki; Yoshizawa, Atsushi
 PATENT ASSIGNEE(S): Japan Enajii KK, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 COOEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 08003560 | A2 | 19960109 | JP 1994-134214 | 19940616 |
| PRIORITY APPLN. INFO.: | | JP 1994-134214 | 19940616 | |
| OTHER SOURCE(S): | | MARPAT 124:274113 | | |

GI

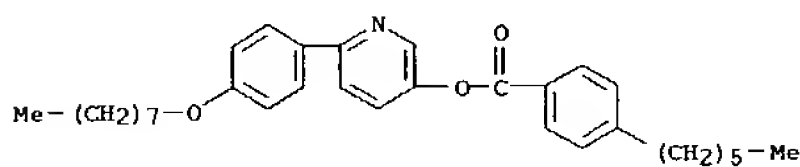


AB The composition contains (A) phenylpyrimidine derivs. selected from I and II, (B) phenylpyrimidine derivs. III, and (C) IV (R1-8 = alkyl; X1 = O, none; Y1 = H, F; Z1 = O, none; X2 = OCO, O, none; Y2 = OCO, none; Z2 = O, OCO). The device contains the composition. The composition showed wide chiral smectic phase temperature and improved contrast.

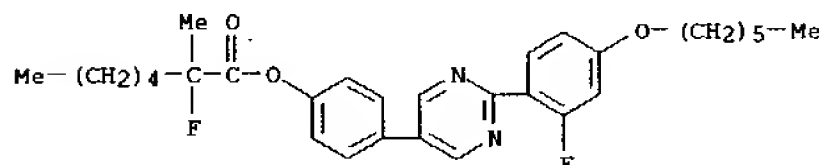
IT 175394-98-6
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal composition containing phenylpyrimidine derivs. and optical switching device with improved contrast)
 RN 175394-98-6 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, butyl ester, mixt. with 4-[2-[2-fluoro-4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl 2-fluoro-2-methylheptanoate, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 4-(5-nonyl-2-pyrimidinyl)phenyl nonanoate, 6-[4-(octyloxy)phenyl]-3-pyridinyl 4-hexylbenzoate, 4-(5-octyl-2-pyrimidinyl)phenyl heptanoate and 4-(5-octyl-2-

L9 ANSWER 265 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 pyrimidinyl)phenyl hexanoate (9CI) (CA INDEX NAME)

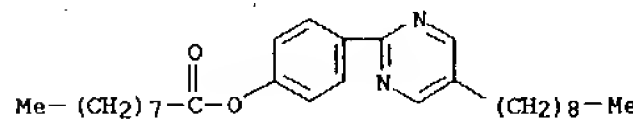
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 CMF C32 H41 N O3



CM 2
 CRN 146018-41-9
 CMF C30 H36 F2 N2 O3

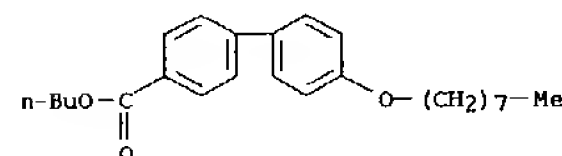


CM 3
 CRN 106831-43-0
 CMF C28 H42 N2 O2

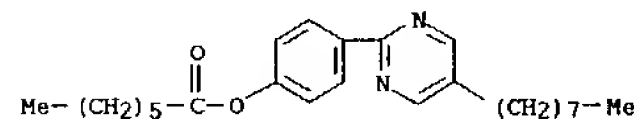


CM 4
 CRN 61966-09-4
 CMF C25 H34 O3

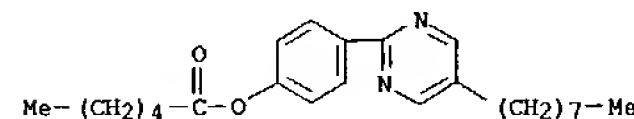
L9 ANSWER 265 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



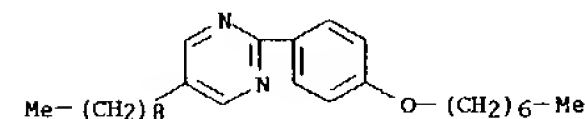
CM 5
 CRN 58415-91-1
 CMF C25 H36 N2 O2



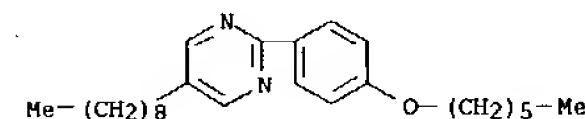
CM 6
 CRN 58415-90-0
 CMF C24 H34 N2 O2



CM 7
 CRN 57202-57-0
 CMF C26 H40 N2 O



CM 8
 CRN 57202-56-9
 CMF C25 H38 N2 O



L9 ANSWER 265 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

9/811,359

09/ 835,523

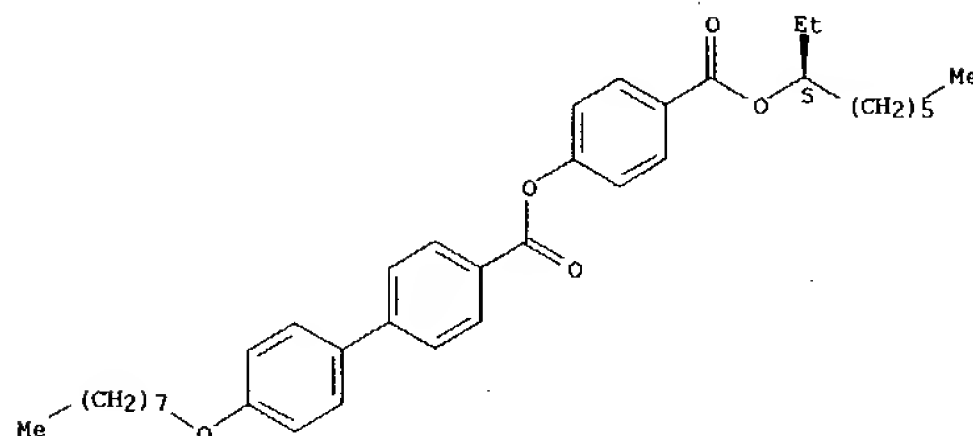
L9 ANSWER 266 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:168088 CAPLUS
 DOCUMENT NUMBER: 124:246160
 TITLE: Antiferroelectric liquid crystal ester compound, its composition, and optical switching device
 INVENTOR(S): Oochi, Yukio; Nishama, Isa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08003117 | A2 | 19960109 | JP 1994-159639 | 19940620 |
| JP 08003117 | A2 | 19960109 | JP 1994-159639 | 19940620 |

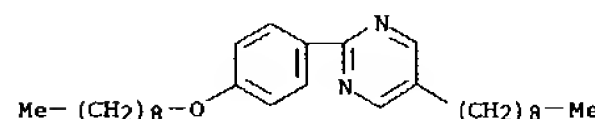
PRIORITY APPLN. INFO.: MARPAT 124:246160
 OTHER SOURCE(S):
 AB The ester compound consists of RO-(1,4-C6H4)-(1,4-C6H4)COO-(1,4-C6H4)C(=O)OC(CmH2m+1)HCnH2n+1 (I: R = alkyl; m = 2, 3; n > m). The composition contains ≥1 I. The device is obtained from the composition. The composition containing I showed controlled phase transition temperature, orientation, and threshold.
 IT 175081-47-7
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (antiferroelec. liq crystal biphenylcarboxylic acid ester compound and optical switching device using it)
 RN 175081-47-7 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 4-[[[(1-ethylheptyl)oxy]carbonyl]phenyl ester, (S)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine and 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 173482-57-0
 CMF C37 H48 O5

Absolute stereochemistry. Rotation (+).

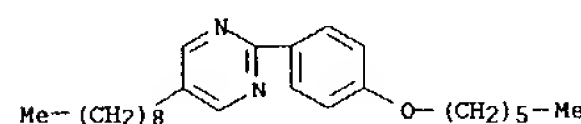
L9 ANSWER 266 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



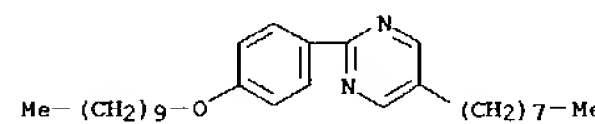
CM 2
 CRN 99895-85-9
 CMF C28 H44 N2 O



CM 3
 CRN 57202-56-9
 CMF C25 H38 N2 O

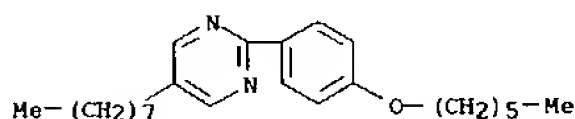


CM 4
 CRN 57202-52-5
 CMF C28 H44 N2 O

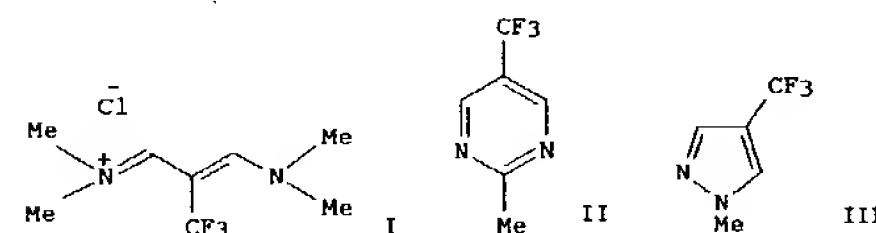


L9 ANSWER 266 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

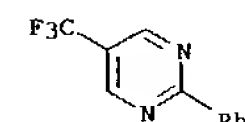
CM 5
 CRN 57202-48-9
 CMF C24 H36 N2 O



L9 ANSWER 267 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:164529 CAPLUS
 DOCUMENT NUMBER: 124:317099
 TITLE: Preparation of novel β-trifluoromethyl vinamidinium salt and its synthetic application to trifluoromethylated heterocycles
 AUTHOR(S): Yamanaka, Hiroki; Takekawa, Tadashi; Morita, Kenji; Ishihara, Takashi; Gupton, John T.
 CORPORATE SOURCE: Dep. Chem. Materials Technology, Kyoto Inst. Technology, Kyoto, 606, Japan
 SOURCE: Tetrahedron Letters (1996), 37(11), 1829-32
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 124:317099
 GI



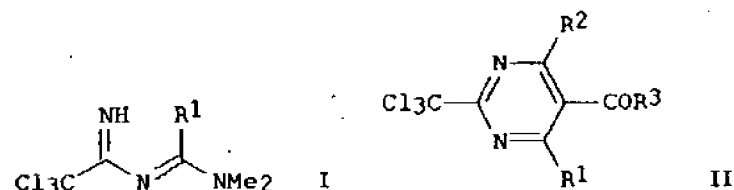
AB β-Trifluoromethylated vinamidinium salt I was prepared in high yield by the reaction between 3,3,3-trifluoropropanoic acid and phosphorus oxychloride in N,N-dimethylformamide at 70 °C for 1 h. I reacted readily with bifunctional nitrogen nucleophiles, such as amidine and hydrazine derivs., in acetonitrile or DMSO to furnish the corresponding trifluoromethylated azaheterocycles, e.g. II and III, in good yields.
 IT 176214-11-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of novel β-trifluoromethyl vinamidinium salt and synthetic application to trifluoromethylated heterocycles)
 RN 176214-11-2 CAPLUS
 CN Pyrimidine, 2-phenyl-5-(trifluoromethyl)- (9CI) (CA INDEX NAME)



9/811,389

09/835,523

L9 ANSWER 268 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:164347 CAPLUS
 DOCUMENT NUMBER: 124:317097
 TITLE: 1,3-Diaza-1,3-butadienes. Synthesis and Conversion into Pyrimidines by [4+2 π] Cycloaddition with Electron Deficient Acetylenes. Synthetic Utility of 2-(Trichloromethyl)pyrimidines
 AUTHOR(S): Guzman, Angel; Romero, Moises; Talamas, Francisco X.; Villena, Rene; Greenhouse, Robert; Muchowski, Joseph M.
 CORPORATE SOURCE: Division de Investigacion, Syntex S. A. de C. V., Jiutepec, 62500, Mex.
 SOURCE: Journal of Organic Chemistry (1996), 61(7), 2470-83
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 124:317097
 GI

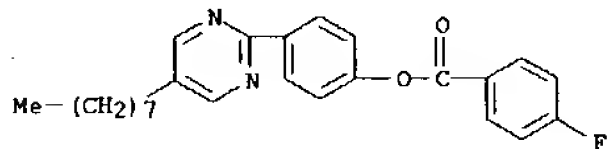


AB Methods have been devised to generate 1H-1,3-diaza-1,3-butadienes bearing a leaving group at position-4 in latent, masked, and unprotected forms. A hallmark of these azadienes is that they undergo thermal [4+2 π] cycloaddn. reactions with electron deficient acetylenes to give adducts which are aromatized to pyrimidine derivs. under the reaction conditions. For example, the cycloaddn. of 2,2,2-trichloro-N-[(dimethylamino)alkylidene]ethanimidamides I (R1 = H, Me, Ph) with acetylene derivs. gave the (trichloromethyl)pyrimidines II (same R1; R2 = MeO2C, H, Ph; R3 = H, OMe, OEt). Thus, 1-(methoxycarbonyl)-3-acylamidines on heating in solution were converted in situ into 1,3-diaza-1,3-dienes which react with di-Me acetylenedicarboxylate (DMAD) to produce pyrimidines. Also, 1-Boc-1,3-diaza-1,3-dienes were masked forms of the 1H-dienes inasmuch as they reacted with DMAD under relatively mild conditions to give dihydropyrimidine adduct, which were easily detectable by 1H NMR spectroscopy, and which aromatized to pyrimidines at higher temps. Also, 4-methylthio compds. and a 2-(trichloromethyl) compound were isolable, relatively stable, 1H-1,3-diaza-1,3-butadienes. These easily prepared compds. react with electron deficient acetylenes under mild conditions to provide pyrimidines in fair to excellent yields. Thus, 2-(trichloromethyl)pyrimidines are very useful precursors of a wide variety of other 2-substituted pyrimidines.
 IT 176240-34-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of pyrimidines by cycloaddn. of amidine derivs. with alkynes)

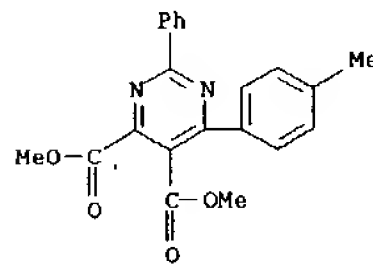
L9 ANSWER 269 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:161157 CAPLUS
 DOCUMENT NUMBER: 124:302702
 TITLE: 2-Fluoro-cyclopentanone compound, 1,4-dioxo-6-fluoro-spiro[4.4]nonane compound, liquid crystal composition containing them, high contrast liquid crystal device with fast response time, display method, and display apparatus
 INVENTOR(S): Yamada, Yoko; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------|------|----------|-----------------|----------|
| JP 07309799 | A2 | 19951128 | JP 1994-126811 | 19940517 |
| PRIORITY APPLN. INFO.: JP 1994-126811 19940517 | | | | |

AB The title 2-fluoro-cyclopentanone compound is represented by RAYX (R = H, halo, CN, Cl-20 alkyl; A = Al, Al2IA2, Al2IA2Z2A3; Al-3 = 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, etc.; Z1, Z2 = single bond, COO, OCO, CH2O, OCH2, CH2CH2, CH:CH, C.tplbond.C; Y = OCO, OCH2; X = 2-fluoro-cyclopentanone-2-yl). The title 1,4-dioxo-6-fluoro-spiro[4.4]nonane compound is represented by RAYX' (R = H, halo, CN, Cl-20 alkyl; A = Al, Al2IA2, Al2IA2Z2A3; Al-3 = 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, etc.; Z1, Z2 = single bond, COO, OCO, CH2O, OCH2, CH2CH2, CH:CH, C.tplbond.C; Y = OCO, OCH2; X' = 1,4-dioxo-6-fluoro-spiro[4.4]nonane-6-yl). The title chiral smectic composition contains 1-80 % of the above compds.
 IT 162084-03-9
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition for liquid crystal device)
 RN 162084-03-9 CAPLUS
 CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 268 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 RN 176240-34-9 CAPLUS
 CN 4,5-Pyrimidinedicarboxylic acid, 6-(4-methylphenyl)-2-phenyl-, dimethyl ester (9CI) (CA INDEX NAME)

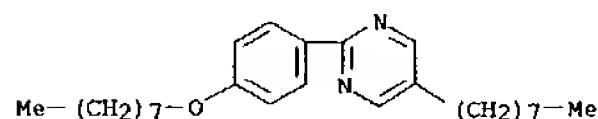


L9 ANSWER 270 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:147889 CAPLUS
 DOCUMENT NUMBER: 124:190214
 TITLE: Preparation of liquid-crystal mixtures
 INVENTOR(S): Siemensmeyer, Karl; Etzbach, Karl-Heinz; Delavier, Paul; Meyer, Frank
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Ger. Offen., 7 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| DE 4427766 | A1 | 19960208 | DE 1994-4427766 | 19940805 |
| WO 9604351 | A1 | 19960215 | WO 1995-EP3002 | 19950728 |
| W: CN, JP, KR, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 773980 | A1 | 19970521 | EP 1995-927740 | 19950728 |
| R: DE, FR, GB, NL | | | | |
| CN 1158142 | A | 19970827 | CN 1995-195144 | 19950728 |
| JP 10503541 | T2 | 19980331 | JP 1996-506181 | 19950728 |
| PRIORITY APPLN. INFO.: DE 1994-4427766 A 19940805 WO 1995-EP3002 W 19950728 | | | | |

OTHER SOURCE(S): MARPAT 124:190214
 AB In the preparation of mixts. of liquid-crystal compds., starting components are used which on reaction lead to statistical mixts. of monomeric liquid-crystal compds.
 IT 174221-17-1P
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (liquid crystal; preparation of)
 RN 174221-17-1 CAPLUS
 CN Pyrimidine, 2-[4-(heptyloxy)phenyl]-5-octyl-, mixt. with 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 57202-50-3
 CMF C26 H40 N2 O

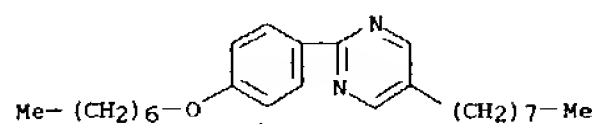


CM 2
 CRN 57202-49-0
 CMF C25 H38 N2 O

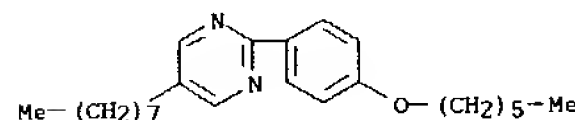
9/811, 359

09/ 835, 523

L9 ANSWER 270 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3
CRN 57202-48-9
CMF C24 H36 N2 O



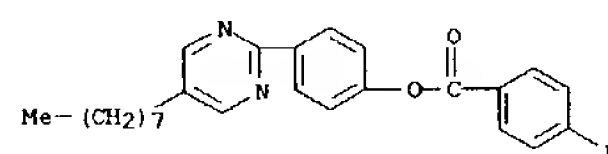
L9 ANSWER 271 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:126631 CAPLUS
DOCUMENT NUMBER: 124:302701
TITLE: Optically active compound, liquid crystal composition containing it, ferroelectric liquid crystal device with fast response time using the composition, display method and display apparatus
INVENTOR(S): Nakamura, Shinichi; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Yamada, Yoko
PATENT ASSIGNEE(S): Canon KK, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07309858 | A2 | 19951128 | JP 1994-124717 | 19940516 |
| PRIORITY APPLN. INFO.: | | | JP 1994-124717 | 19940516 |

AB The title composition comprises 1-80 % of the title optically active compound, R1A1A2X1A3X2LA4R2 {R1, R2 = H, halo, CN, C1-30 alkyl; A3 = 1,4-phenylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, etc.; A1, A2, A4 = single bond, A3: X1 = single bond, COO, OCO, CH2O, OCH2, CH2CH2, CH:CH, C.tplbond.C; X2 = OCH2, COOCH2, (CH2)p; p = 0-12; L = optically active butanolide-3,4-diyl}.

IT 162084-03-9
RL: DEV (Device component use); USES (Uses)
(liquid crystal composition for liquid crystal device)

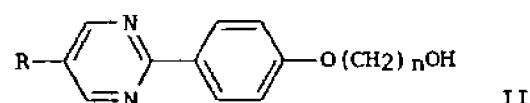
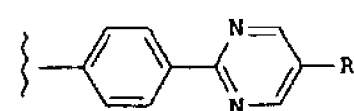
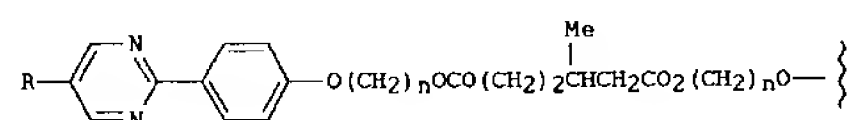
RN 162084-03-9 CAPLUS
CN Benzoic acid, 4-fluoro-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 272 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:123632 CAPLUS
DOCUMENT NUMBER: 124:160521
TITLE: 3-methyl adipic acid diester compound, liquid crystal composition containing it, and manufacture of the compound
INVENTOR(S): Yoshizawa, Atsushi; Nishama, Isa
PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 07267935 | A2 | 19951017 | JP 1994-82601 | 19940330 |
| PRIORITY APPLN. INFO.: | | | JP 1994-82601 | 19940330 |
| OTHER SOURCE(S): | | MARPAT 124:160521 | | |

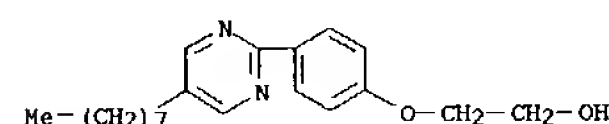
GI



AB The 3-Me adipic acid diester compound is represented by I (R = C1-18 alkyl; n = 1-10). The C bonding to Me and CH in the compound has asym. center. The composition comprises I or an optical isomer thereof. The process comprises diesterification of II and 3-dimethyl adipic acid.

IT 165279-14-1P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(liquid crystal composition)

RN 165279-14-1 CAPLUS
CN Ethanol, 2-[4-(5-octyl-2-pyrimidinyl)phenoxy]- (9CI) (CA INDEX NAME)

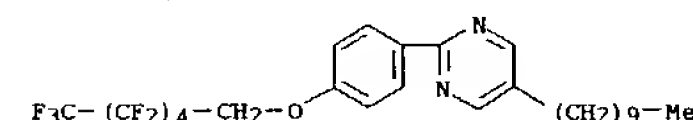


L9 ANSWER 273 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:119835 CAPLUS
DOCUMENT NUMBER: 124:212665
TITLE: Surface tension of freestanding partially fluorinated liquid-crystal films
AUTHOR(S): Stoebe, T.; Mach, P.; Grantz, S.; Huang, C. C.
CORPORATE SOURCE: Dep. of Chem. Engineering and Materials Science, Univ. of Minnesota, Minneapolis, MN, 55455, USA
SOURCE: Physical Review E: Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (1996), 53(2), 1662-5
CODEN: PLEEE8; ISSN: 1063-651X
PUBLISHER: American Physical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The surface tension of freestanding liquid-crystal films has been measured as a function of film thickness and temperature. The data are independent of film thickness from over 100 down to only two mol. layers (~ 50 Å) and no temperature dependence could be detected. The results obtained on recently synthesized partially fluorinated materials indicate that the film-vapor interfaces consist of roughly equal proportions of CF3 and CH3 terminal groups.

IT 159680-03-2
RL: PRP (Properties)
(surface tension of freestanding partially fluorinated liquid-crystal film)

RN 159680-03-2 CAPLUS
CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,6-undecafluorohexyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



9/811, 359

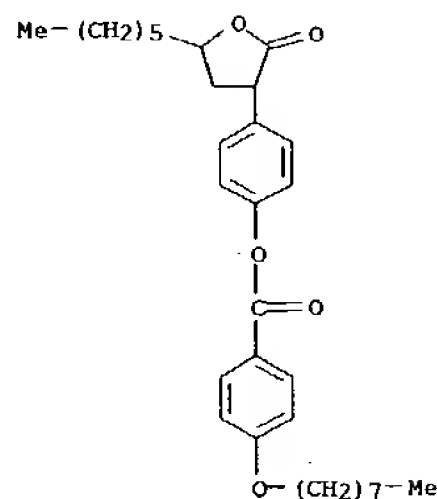
09/835,523

L9 ANSWER 274 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:117880 CAPLUS
 DOCUMENT NUMBER: 124:246541
 TITLE: Trifluoromethylamino-group containing compound, its intermediates, its preparation, and liquid crystal composition containing it
 INVENTOR(S): Takehara, Sadao; Takatsu, Hachiyoshi; Hyama, Tamejiro; Kuroboshi, Manabu
 PATENT ASSIGNEE(S): Dainippon Ink Chemical Industry Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

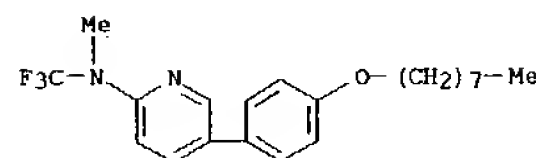
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07300447 | A2 | 19951114 | JP 1995-51115 | 19950310 |
| | | | JP 1994-41587 | 19940311 |

PRIORITY APPLN. INFO.:
 AB The title compound is represented by RNCF3AJ(BK)mCZ [R = C1-16 alkyl, C2-16 alkenyl; A = 1,4-phenylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl; B, C = 1,4-phenylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl, trans-1,4-cyclohexylene, 1,4-cyclohexenylene, 1,3-dioxane-trans-2,5-diyl; J, K = single bond, CH2CH2, C.tplbond.C, CH2O, OCH2, COO, OCO; m = 0, 1; Z = F, Cl, CN, OCN, R1, OR1, OCOR1, COOR2, OCOOR2, H; R1 = C1-16 alkyl; R2 = C2-16 alkenyl, CH2CF3].
 IT 174793-89-6
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition)
 RN 174793-89-6 CAPLUS
 CN Benzoic acid, 4-(octyloxy)-, 4-(5-hexyltetrahydro-2-oxo-3-furanyl)phenyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, N-methyl-5-[4-(octyloxy)phenyl]-N-(trifluoromethyl)-2-pyridinamine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 174793-88-5
 CMF C31 H42 O5

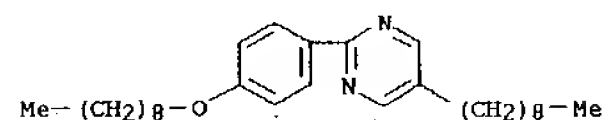
L9 ANSWER 274 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2
 CRN 161694-94-6
 CMF C21 H27 F3 N2 O

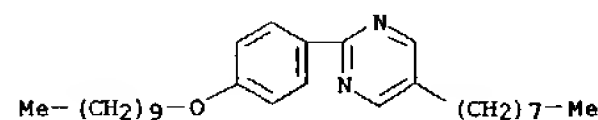


CM 3
 CRN 99895-85-9
 CMF C28 H44 N2 O

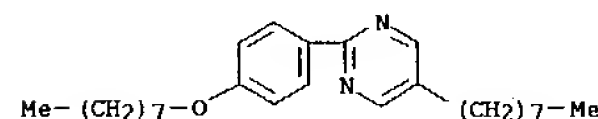


CM 4
 CRN 57202-52-5
 CMF C28 H44 N2 O

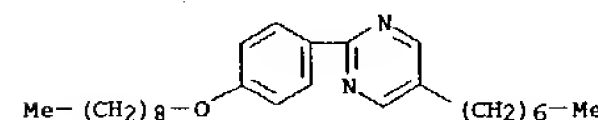
L9 ANSWER 274 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 5
 CRN 57202-50-3
 CMF C26 H40 N2 O



CM 6
 CRN 57202-40-1
 CMF C26 H40 N2 O

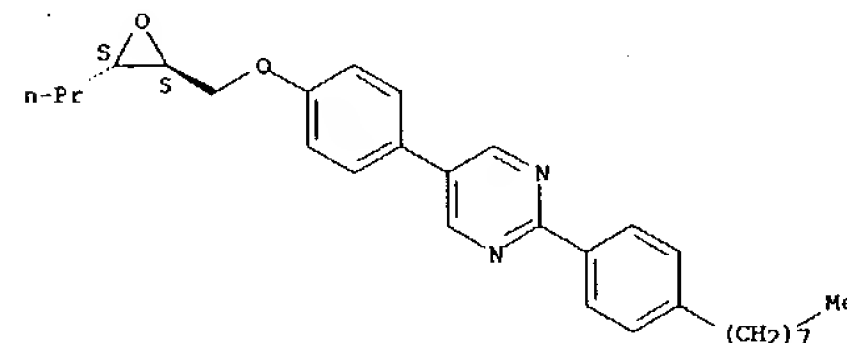


L9 ANSWER 275 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:117841 CAPLUS
 DOCUMENT NUMBER: 124:160539
 TITLE: Optically active 2,3-difluoroalkoxy compound, ferroelectric liquid crystal compound, and liquid crystal composition
 INVENTOR(S): Taguchi, Isamu; Inoue, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07291941 | A2 | 19951107 | JP 1994-113470 | 19940428 |
| | | | JP 1994-113470 | 19940428 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 124:160539
 AB The title compound is represented by RIABCOCH2CHFCHFR2 (R1 = C3-13 alkyl, alkoxy; R2 = C1-10 alkyl; A, B, C = 1,4-phenylene, 2,5-pyrimidinediyl).
 IT 173593-08-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of optically active 2,3-difluoroalkoxy compound)
 RN 173593-08-3 CAPLUS
 CN Pyrimidine, 2-(4-octylphenyl)-5-[4-[(3-propyloxiranyl)methoxy]phenyl]-, (2S-trans)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

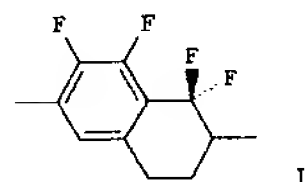


9/811, 359

09/ 835, 523

L9 ANSWER 276 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:115272 CAPLUS
 DOCUMENT NUMBER: 124:161206
 TITLE: Tetrafluorotetralin derivatives and liquid-crystal mixtures and electrooptical switching and display devices containing them
 INVENTOR(S): Manero, Javier; Fuss, Robert Walter; Hornung, Barbara
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 74 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|--------------------------|------------------|----------|
| DE 19522152 | A1 | 19951221 | DE 1995-19522152 | 19950619 |
| PRIORITY APPLN. INFO.: | | DE 1994-4421545 19940620 | | |
| OTHER SOURCE(S): | | MARPAT 124:161206 | | |
| GI | | | | |

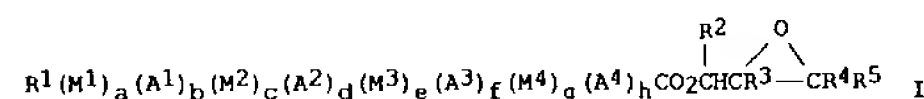


AB The compds. have the general formula $R_1M_1a_1b_1m_2c_1a_2d_1m_3e_1b_4f_1a_3g_1m_5h_4i_1m_6k_2$, where $B = I$; $R_1, R_2 = H, CN, F, Cl, CF_3, CHF_2, CH_2F, OCF_3, OCHF_2, OCH_2F$, optionally substituted C_1-20 alkyl, or other optically active or racemic groups; $M_1-6 = O, S, CO, COO, OCO, OCOO, COS, SCO, CSO, OCS, SCSS, OCSO, SCOS, CS, CH_2O, OCH_2, CH_2S, SCH_2, CH:CH, C.tplbond.C, CH_2CH_2COO, OCOCH_2CH_2$, or a single bond; $A_1-4 =$ optionally substituted 1,4-phenylene, pyrimidin-2,5-diyl, trans-1,4-cyclohexylene, or other rings; and $a, b, c, d, e, f, g, h, i, k = 0$ or 1. The compds. are colorless in the pure state and generally form liquid-crystal mesophases in a temperature range suitable for electrooptical uses.

IT 173554-55-7p
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (for liquid-crystal mixts. in electrooptical switching and/or display devices)
 RN 173554-55-7 CAPLUS
 CN Pyrimidine, 5-(hexyloxy)-2-(3,4,5,5-tetrafluoro-5,6,7,8-tetrahydro-6-octyl-2-naphthalenyl)- (9CI) (CA INDEX NAME)

L9 ANSWER 277 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:113405 CAPLUS
 DOCUMENT NUMBER: 124:161204
 TITLE: 1-(3-Alkyloxiran-2-yl)alkyl esters of mesogenic carboxylic acids and liquid-crystal mixtures and switching and/or display devices using them
 INVENTOR(S): Scherowsky, Guenter; Henschel, Dirk
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|--------------------------|-----------------|----------|
| DE 4423044 | A1 | 19960104 | DE 1994-4423044 | 19940701 |
| PRIORITY APPLN. INFO.: | | DE 1994-4423044 19940701 | | |
| OTHER SOURCE(S): | | MARPAT 124:161204 | | |
| GI | | | | |



AB The compds. have the general formula I, where $R_1 = H, CN, F, Cl, CF_3, CHF_2, CH_2F, OCF_3, OCHF_2$, optionally substituted linear or branched C_1-20 alkyl, or other optically active or racemic groups; $R_2 =$ linear C_1-12 alkyl in which ≥ 1 CH_2 group may be replaced by O and/or $CH:CH$; $R_3-5 = H$ or linear or branched C_1-16 alkyl in which ≥ 1 CH_2 group may be replaced by O and/or $CH:CH$; R_4 and R_5 together may be $-(CH_2)_4-$ or $-(CH_2)_5-$; $M_1-4 = O, S, CO, COO, OCO, OCOO, COS, SCO, CSO, OCS, SCSS, OCSO, SCOS, CS, CH_2O, OCH_2, CH_2S, SCH_2, CH:CH$, or $C.tplbond.C$; $A_1-4 =$ optionally substituted 1,4-phenylene, pyrimidin-2,5-diyl, trans-1,4-cyclohexylene, or other rings; and $a, b, c, d, e, f, g, h = 0$ or 1. The compds. are colorless in the pure state and generally form liquid-crystal mesophases in a temperature range favorable for use in electrooptical devices.

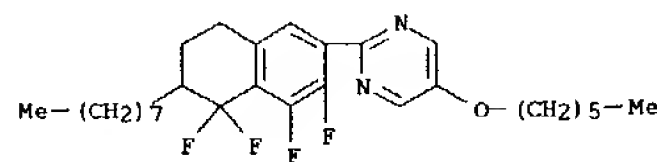
IT 173654-89-2
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal mixts. for electrooptical devices)
 RN 173654-89-2 CAPLUS
 CN Benzoic acid, 4-(octyloxy)-, 4-[[1-(3-butyloxiran-2-yl)ethoxy]carbonyl]phenyl ester, [2S-[2 α (R'), 3 β]]-, mixt. with 2-(4-butoxyphenyl)-5-(octyloxy)pyrimidine, 2-[4-(decyloxy)phenyl]-5-(octyloxy)pyrimidine, trans-4-(5-decyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate, 2-[4-(hexyloxy)phenyl]-5-(octyloxy)pyrimidine and 5-(octyloxy)-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

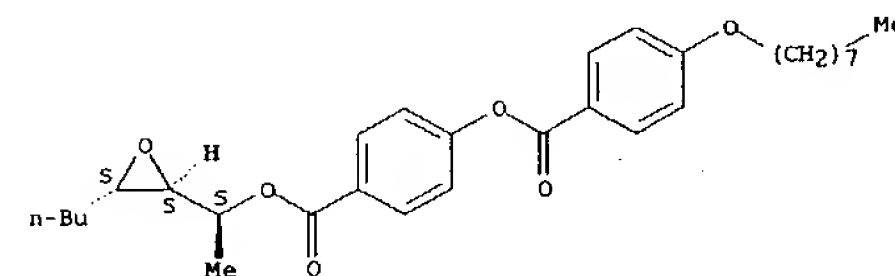
CRN 173478-79-0
CMF C30 H40 O6

Absolute stereochemistry.

L9 ANSWER 276 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



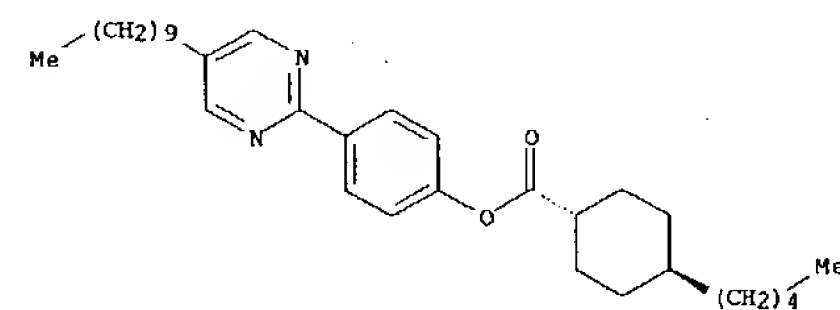
L9 ANSWER 277 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



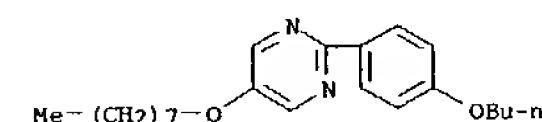
CM 2

CRN 121083-93-0
CMF C32 H48 N2 O2

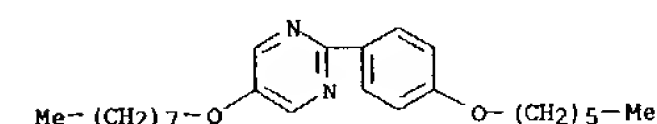
Relative stereochemistry.



CM 3

CRN 121083-89-4
CMF C22 H32 N2 O2

CM 4

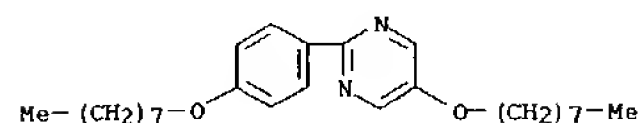
CRN 120091-49-8
CMF C24 H36 N2 O2

9/811, 359

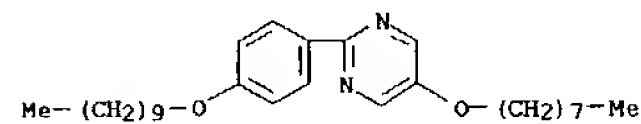
~~09/835,523~~

L9 ANSWER 277 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 5

CRN 114767-84-9
CMF C26 H40 N2 O2

CM 6

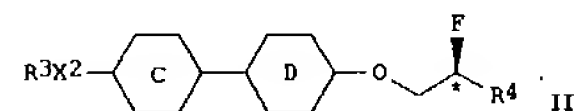
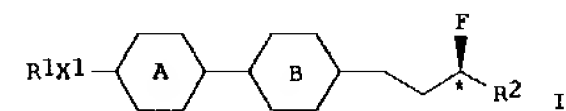
CRN 114415-28-0
CMF C28 H44 N2 O2

L9 ANSWER 278 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:97151 CAPLUS
DOCUMENT NUMBER: 124:131674
TITLE: Ferroelectric liquid-crystal composition
INVENTOR(S): Takehara, Sadao; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07278550 | A2 | 19951024 | JP 1994-73280 | 19940412 |
| PRIORITY APPLN. INFO.: | | | JP 1994-73280 | 19940412 |

GI



AB The title ferroelec. liquid-crystal composition contains chiral dopants I and II [R1,3 = C1-16 alkyl; X1,2 = single bond, O; one of X and Y is 1,4-phenylene, the other is pyrimidine-2,5-diyl; R2,4 = C1-12 alkyl; C, D = 1,4-phenylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, trans-1,4-cyclohexylene]. Also claimed is a liquid crystal display device using the above liquid-crystal composition

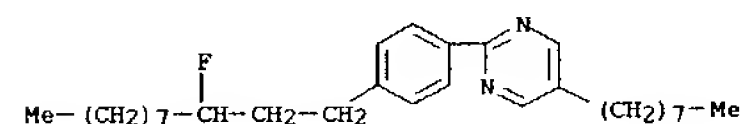
IT 173308-34-4

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(chiral dopant for liquid-crystal composition)

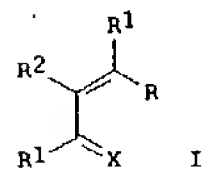
RN 173308-34-4 CAPLUS

CN Pyrimidine, 2-[4-(3-fluoroundecyl)phenyl]-5-octyl- (9CI) (CA INDEX NAME)



L9 ANSWER 279 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:94708 CAPLUS
DOCUMENT NUMBER: 124:289407
TITLE: Reactions of N-unsubstituted 4-amino-1-azadienes towards electrophiles
AUTHOR(S): Barluenga, Jose; del Pozo, Carlos; Olano, Bernardo
CORPORATE SOURCE: Instituto Quimica Organometalica "Enrique Moles", Universidad Oviedo, Oviedo, E-33071, Spain
SOURCE: Synthesis (1996), (1), 133-40
CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:289407
GI



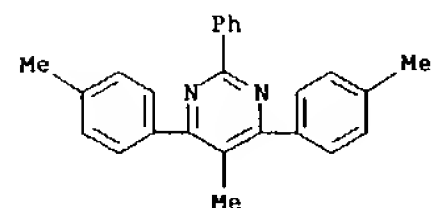
AB Several reactions related to the ambident nucleophilicity of N-unsubstituted azadienes I (X = N; R = NH2; R1 = H; R2 = 4-tolyl, 2-furyl, CHMe2; II) are described. Reaction of II with alkylating agents and iodobispyridinium tetrafluoroborate leads to C-substituted azadienes I (R1 = alkyl; III) and I (R1 = I; IV), resp. Azadienes II and III are converted to the corresponding carbonyl derivs. I (X = O; R = OH) and HRIC(CRO)2 by mild hydrolysis. Azadienes II, III, and IV react through the N atoms with several carbonyl centered electrophiles to give N heterocycles such as pyrimidines and dihydropyrimidines. All processes are totally regioselective. Azadienes II and III showed a lower nucleophilicity at N than N-substituted azadienes.

IT 175598-58-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of enol ketones, diketones, and pyrimidines from N-unsubstituted aminoazadienes and electrophiles)

RN 175598-58-0 CAPLUS

CN Pyrimidine, 5-methyl-4,6-bis(4-methylphenyl)-2-phenyl- (9CI) (CA INDEX NAME)

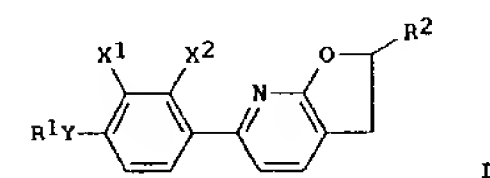


L9 ANSWER 280 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:79021 CAPLUS
DOCUMENT NUMBER: 124:189637
TITLE: Optically active dihydrofuro[2,3-b]pyridine derivative and liquid-crystal composition containing same
INVENTOR(S): Takehara, Sadao; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi
PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 07247287 | A2 | 19950926 | JP 1994-40987 | 19940311 |
| PRIORITY APPLN. INFO.: | | | JP 1994-40987 | 19940311 |
| OTHER SOURCE(S): | | MARPAT 124:189637 | | |

GI



AB The title dihydrofuro[2,3-b]pyridine derivative has structure I [R1 = F- or C1-10 alkoxy-substituted C1-18 alkyl; Y = single bond, O; X1,2 = H, F; R2 = C1-12 alkyl; * = asym. C]. Also claimed is a liquid-crystal composition containing the above compound

IT 173025-81-5

RL: DEV (Device component use); USES (Uses)
(liquid-crystal display element from)

RN 173025-81-5 CAPLUS

CN Furo[2,3-b]pyridine, 2-hexyl-2,3-dihydro-6-[4-(octyloxy)phenyl]-, (R)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

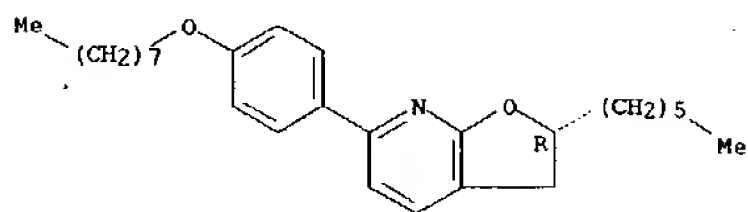
CRN 169892-80-2
CMF C27 H39 N O2

Absolute stereochemistry.

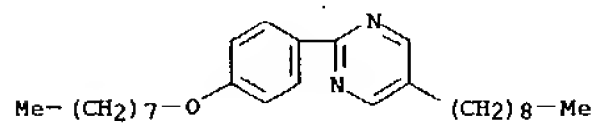
9/811, 359

09/ 835,523

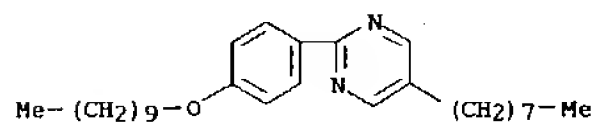
L9 ANSWER 280 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



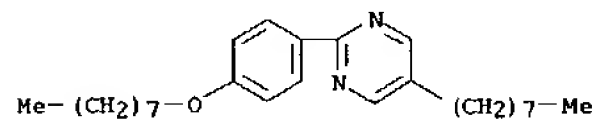
CM 2
CRN 57202-58-1
CMF C27 H42 N2 O



CM 3
CRN 57202-52-5
CMF C28 H44 N2 O



CM 4
CRN 57202-50-3
CMF C26 H40 N2 O



CM 5
CRN 57202-40-1
CMF C26 H40 N2 O

L9 ANSWER 281 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:67459 CAPLUS
DOCUMENT NUMBER: 124:189658
TITLE: Smectic liquid crystal composition
INVENTOR(S): Nishama, Isa; Yoshizawa, Atsushi; Ise, Noriko
PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07286179 | A2 | 19951031 | JP 1994-101741 | 19940418 |

PRIORITY APPLN. INFO.: JP 1994-101741 19940418

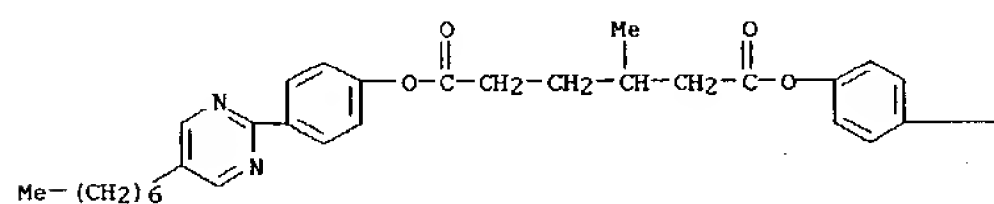
AB The title liquid crystal composition comprises 4-cyano-4'-alkylbiphenyl or 4-cyano-4'-alkoxybiphenyl compound showing smectic phase to which an optically active 3-methyladipic acid diester compound having a core structure in its both ends is added. The diester compound may be AOCO(CH₂)₂CHMeCH₂CO₂A [A = RXYZ; R = cyano, C1-18 alkyl, alkoxy, alkanoyloxy, alkoxycarbonyl; X = phenylene, naphthyl, biphenyl, pyrimidyl, cyclohexyl, bicyclohexyl, phenylcyclohexyl; Y = CO₂, OCO, O, COS, single bond; Z = single bond, Ph, cyclohexyl, phenylalkyl, or phenoxyalkyl]. The composition has a weak smectic phase which can bring about the change of layer structure without applying strong force from outside and is useful as a material for optoelectronic devices. Thus, a smectic liquid crystal composition was prepared by using a composition containing p-C8H17C6H4C6H4CN-p, p-C9H19C6H4C6H4CN-p, and p-C8H17OC6H4C6H4CN-p (42:28:30 weight ratio) and said diester compound

IT 174303-78-7
RL: DEV (Device component use); USES (Uses)
(smectic liquid crystal composition containing methyladipic acid diester)

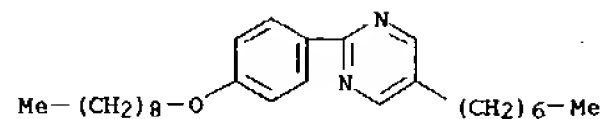
RN 174303-78-7 CAPLUS
CN Hexanedioic acid, 3-methyl-, bis[4-(5-heptyl-2-pyrimidinyl)phenyl] ester, mixt. with 4'-nonyl[1,1'-biphenyl]-4-carbonitrile, 4'-octyl[1,1'-biphenyl]-4-carbonitrile and 4'-(octyloxy)[1,1'-biphenyl]-4-carbonitrile (9CI) (CA INDEX NAME)

CM 1
CRN 174303-77-6
CMF C41 H52 N4 O4

PAGE 1-A

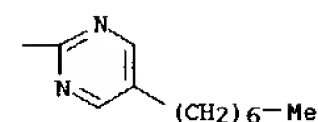


L9 ANSWER 280 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

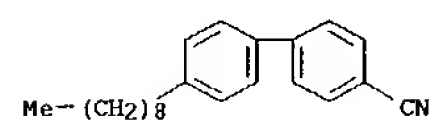


L9 ANSWER 281 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

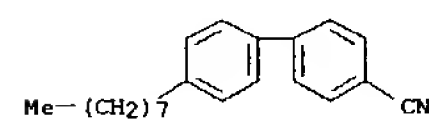
PAGE 1-B



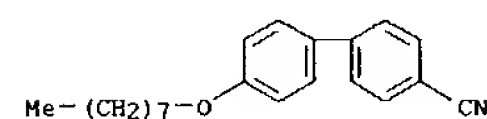
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CMF C22 H27 N



CM 3
CRN 52709-84-9
CMF C21 H25 N



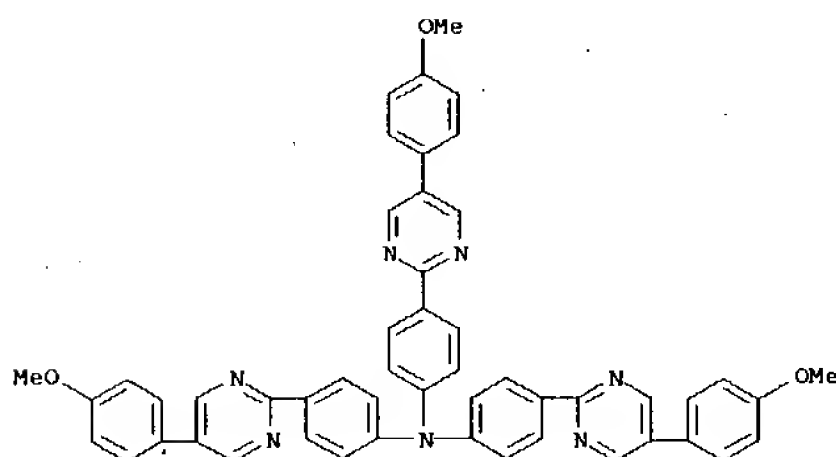
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CRN 52364-73-5
CMF C21 H25 N O



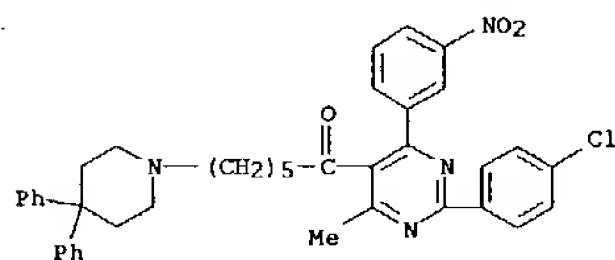
9/811, 359

09/ 835,523

L9 ANSWER 282 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:58167 CAPLUS
 DOCUMENT NUMBER: 124:159586
 TITLE: Experimental Determination of the First Hyperpolarizability of New Chiral and Achiral Octupolar Tertiary Amines by Hyper-Rayleigh Scattering
 AUTHOR(S): Stadler, S.; Braeuchle, Ch.; Brandl, S.; Gompper, R.
 CORPORATE SOURCE: Department of Physical Chemistry, University of Munich, Munich, 80333, Germany
 SOURCE: Chemistry of Materials (1996), 8(2), 414-17
 CODEN: CMATEX; ISSN: 0897-4756
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Tertiary amines with a fully sp²-hybridized N as central atom and acceptor-substituted Ph or diazabiphenyl units as peripheral groups (hereafter shortly referred to as sidewing-octupoles) exhibit relatively high β values at short absorption wavelengths. Donor substitution of those sidewings results in a drop in the 1st hyperpolarizability β at comparable absorption wavelengths. One of the octupoles studied has 3 chiral C atoms so that it should crystallize in a noncentrosym. structure. This is interesting since there is no other way to obtain macroscopic $\chi^{(2)}$ structures from octupolar mols. due to the lack of a permanent dipole moment. The 1st hyperpolarizability β of these octupolar mols. was measured via the recently developed hyper-Rayleigh-scattering technique (HRS) at 1064 nm.
 IT 173852-98-7
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (exptl. determination of first hyperpolarizability of new chiral and achiral octupolar tertiary amines by hyper-Rayleigh scattering)
 RN 173852-98-7 CAPLUS
 CN Benzenamine, 4-[5-(4-methoxyphenyl)-2-pyrimidinyl]-N,N-bis[4-[5-(4-methoxyphenyl)-2-pyrimidinyl]phenyl]- (9CI) (CA INDEX NAME)



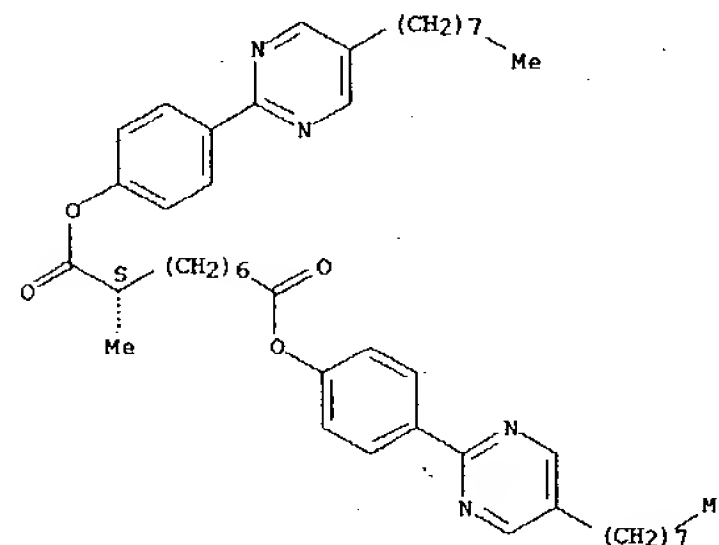
L9 ANSWER 283 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 283 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:38722 CAPLUS
 DOCUMENT NUMBER: 124:134758
 TITLE: Reversible Labeling of a Chemosensitizer Binding Domain of p-Glycoprotein with a Novel 1,4-Dihydropyridine Drug Transport Inhibitor
 AUTHOR(S): Boer, R.; Dichtl, M.; Borchers, C.; Ulrich, W. R.; Marecek, J. F.; Prestwich, G. D.; Glossmann, H.; Striessnig, J.
 CORPORATE SOURCE: Institut fuer Biochemische Pharmakologie, Innsbruck, A-6020, Austria
 SOURCE: Biochemistry (1996), 35(5), 1387-96
 CODEN: BICHAW; ISSN: 0006-2960
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A photoreactive dihydropyridine (DHP), BZDC-DHP (2,6-dimethyl-4-(2-(trifluoromethyl)phenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid (2-[3-(4-benzoylphenyl)propionylamino]ethyl) ester Et ester), and its tritiated derivative were synthesized as novel probes for human p-glycoprotein (p-gp). (-)-[3H]BZDC-DHP specifically photolabeled p-gp in membranes of multidrug-resistant CCRF-ADR5000 cells. In reversible labeling expts. a saturable, vinblastine-sensitive and high-affinity ($K_d = 16.3$ nM, $B_{max} 58$ = pmol/mg of protein, $k_{+1} = 0.031$ nM⁻¹ min⁻¹, $k_{-1} = 0.172$ min⁻¹) binding component was present in CCRF-ADR5000 membranes but absent in the sensitive parent cell line. Binding was inhibited by cytotoxics and known chemosensitizers with a p-gp characteristic pharmacol. profile. For eight chemosensitizers tested, the potency for binding inhibition correlated ($r > 0.94$) with the potency for drug transport inhibition (measured using rhodamine 123 accumulation). The DHP niguldipine and a structurally related pyrimidine stereoselectively stimulated reversible (-)-[3H]BZDC-DHP binding, suggesting that more than one DHP mol. can bind to p-gp at the same time. Our data demonstrate that DHPs label multiple chemosensitizer domains on p-gp, distinct from the vinblastine interaction site. (-)-[3H]BZDC-DHP represents a valuable tool to characterize the mol. organization of chemosensitizer binding domains on p-gp by both reversible binding and photoinduced covalent modification. It provides a novel simple screening assay for p-gp active drugs.
 IT 173220-66-1, B 9309-012
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (reversible labeling of a chemosensitizer binding domain of p-glycoprotein with a 1,4-dihydropyridine drug transport inhibitor)
 RN 173220-66-1 CAPLUS
 CN 1-Hexanone, 1-[2-(4-chlorophenyl)-4-methyl-6-(3-nitrophenyl)-5-pyrimidinyl]-6-(4,4-diphenyl-1-piperidinyl)- (9CI) (CA INDEX NAME)

L9 ANSWER 284 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:36471 CAPLUS
 DOCUMENT NUMBER: 124:132089
 TITLE: Coupling between chirality and odd-even effect of twin materials in smectic liquid-crystalline phases
 AUTHOR(S): Yoshizawa, Atsushi; Matsuzawa, Kenji; Nishiyama, Isa
 CORPORATE SOURCE: Japan Energy Corporation, Saitama, 335, Japan
 SOURCE: Journal of Materials Chemistry (1995), 5(12), 2131-7
 CODEN: JMACEP; ISSN: 0959-9428
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Novel chiral twin mols., (S)-2-methylnonanedioic acid bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester (MDB-8-PYP) and (S)-2-methyldecanedioic acid bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester (MBD-8-PYP), were prepared and the off-even effect of the chiral spacer on the helical twisting power studied. Pitch measurements in a mixture with a host material revealed that MBD-8-PYP with an even number of atoms in the spacer induces a stronger helical structure in the cholesteric phase and particularly in the chiral smectic C phase than MNB-8-PYP with an odd-numbered spacer. The marked odd-even effect observed in the SC* pitch can be explained by the authors' proposed intercalated chirality model for twisting power in smectic phases induced by a chiral twin mol.
 IT 173322-09-3P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and coupling between chirality and odd-even effect of smectic liquid crystals of)
 RN 173322-09-3 CAPLUS
 CN Nonanedioic acid, 2-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



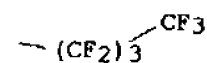
09/835,523

2/811, 359

L9 ANSWER 285 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:34946 CAPLUS
DOCUMENT NUMBER: 124:189648
TITLE: Chiral liquid crystal compounds having a perfluoroether terminal portion
INVENTOR(S): Janulis, Eugene P.; Johnson, Gilbert C.; Radcliffe, Marc D.; Savu, Patricia M.; Snustad, Daniel C.; Spawn, Terence D.
PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co., USA
SOURCE: U.S., 21 pp. Cont.-in-part of U.S. Ser. No. 171,569, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

L9 ANSWER 285 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B

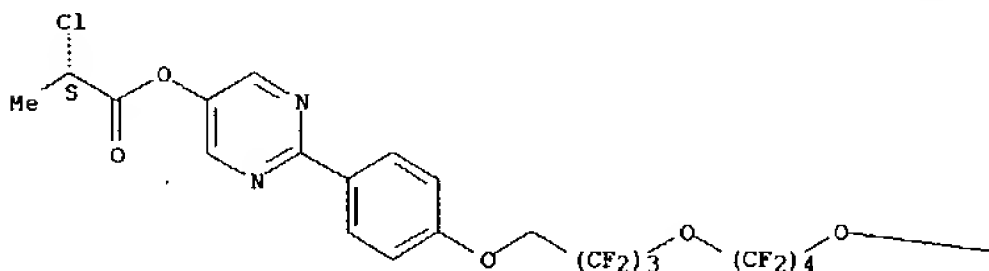


| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| US 5474705 | A | 19951212 | US 1994-338961 | 19941114 |
| CA 2177590 | AA | 19950629 | CA 1994-2177590 | 19941116 |
| ES 2117847 | T3 | 19980816 | ES 1995-902584 | 19941116 |

PRIORITY APPLN. INFO.: US 1993-171569 19931222
OTHER SOURCE(S): MARPAT 124:189648
AB Fluorine-containing, chiral liquid crystal compds. comprise (a) an aliphatic fluorocarbon terminal portion containing at least two catenary ether oxygen atoms; (b) a chiral, aliphatic hydrocarbon terminal portion; and (c) a central core connecting the terminal portions. The compds. have smectic mesophases or latent smectic mesophases and are useful, for example, in liquid crystal display devices.
IT 169505-27-5P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (chiral liquid crystal compds. having perfluoroether terminal portion)
RN 169505-27-5 CAPLUS
CN Propanoic acid, 2-chloro-, 2-[4-[2,2,3,3,4,4-hexafluoro-4-[1,1,2,2,3,3,4,4-octafluoro-4-(nonafluorobutoxy)butoxy]phenyl]-5-pyrimidinyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

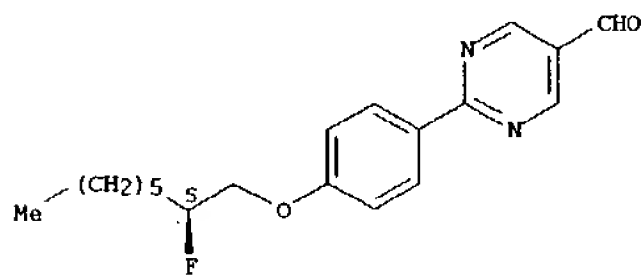


L9 ANSWER 286 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:34579 CAPLUS
DOCUMENT NUMBER: 124:216245
TITLE: Optically active compounds, their preparations, their intermediates, and liquid crystal compositions containing them
INVENTOR(S): Takehara, Sadao; Ito, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res.
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JXOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07247237 | A2 | 19950926 | JP 1994-39635 | 19940310 |

PRIORITY APPLN. INFO.: JP 1994-39635 19940310
OTHER SOURCE(S): MARPAT 124:216245
AB The title ferroelec. liquid crystal compns. contain R1CFHCH2CH2ABOCH2CFHR2 and R3CDOCH2CFHR4 (R1-4 = C1-12 alkyl; A, B, C, D = pyrimidine-2,5-diyl, 1,4-phenylene) as chiral dopants.
IT 172415-63-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (chiral dopants)
RN 172415-63-3 CAPLUS
CN 5-Pyrimidinecarboxaldehyde, 2-[4-[(2-fluorooctyl)oxy]phenyl]-, (S)- (9CI) (CA INDEX NAME)

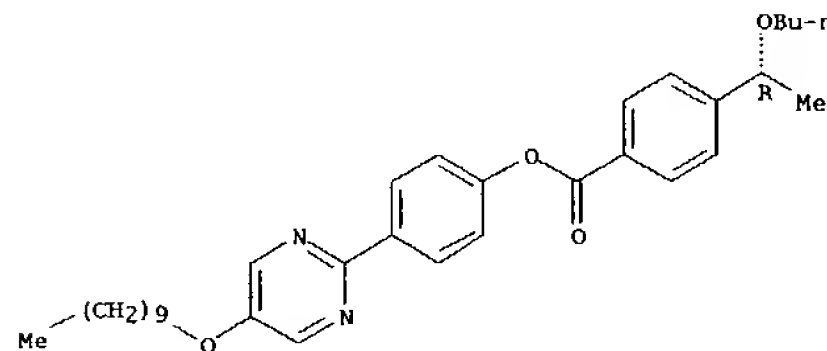
Absolute stereochemistry.



L9 ANSWER 287 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:26322 CAPLUS
DOCUMENT NUMBER: 124:129990
TITLE: Sign inversion of spontaneous polarization and electro-optic properties in ferroelectric liquid crystal mixture
AUTHOR(S): Fuwa, Yoshiaki; Moritake, Hiroshi; Myojin, Katsunori; Ozaki, Masanori; Yoshino, Katsumi; Tani, Takeshi; Fujisawa, Koichi
CORPORATE SOURCE: Department of Electronic Engineering, Osaka University, Japan
SOURCE: Technology Reports of the Osaka University (1995), 45(2217-2232), 175-80
CODEN: TROUAI; ISSN: 0030-6177
PUBLISHER: Osaka University, Faculty of Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The sign inversion of spontaneous polarization with temperature was found in the binary mixture of chiral smectic and nonchiral smectic liquid crystals. The tilt angle in the thin cell (1 μm) is half of that in the thick cell (6 μm). In the cell with surface treatments, unsym. response was observed upon applying a stepwise field except at the temperature of the sign inversion. At the inversion temperature anomalous response was observed under applying a triangular field.
IT 173211-33-1
RL: PRP (Properties) (sign inversion of spontaneous polarization and electrooptic properties in ferroelec. liquid crystal mixture containing)
RN 173211-33-1 CAPLUS
CN Benzoic acid, 4-(1-butoxyethyl)-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

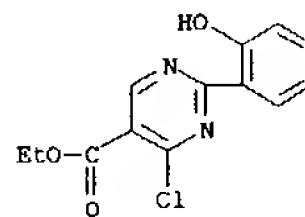


9/811, 359

09/ 835,523

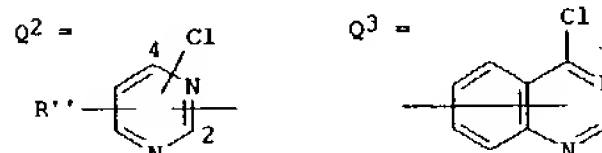
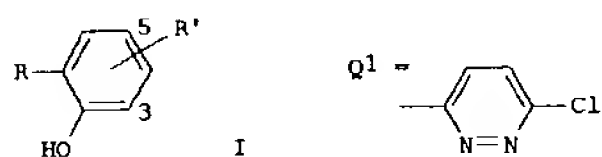
L9 ANSWER 288 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:995597 CAPLUS
 DOCUMENT NUMBER: 124:146183
 TITLE: Method of preparing chloro azines containing an o-hydroxyphenyl group
 INVENTOR(S): Krivopalov, V. P.; Nikolaenkova, E. B.; Mamaev, V. P.
 PATENT ASSIGNEE(S): Novosibirskii Institut Organicheskoi Khimii SO RAN, Russia
 SOURCE: Russ. From: Izobreteniya 1995, (1), 163.
 CODEN: RUXXE7
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

L9 ANSWER 288 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| RU 2026295 | C1 | 19950109 | RU 1991-4947274 | 19910618 |
| PRIORITY APPLN. INFO.: | | | SU 1991-4947274 | 19910618 |

GI



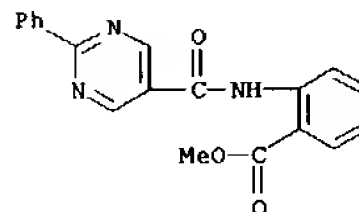
AB Title compds. I [R' = H, R = Q1, or R = Q2 where (a) Cl is in 2-position, R'' = H, 6-Ph, and bound through 4-position, or (b) Cl is in 4-position, R'' = H, 5- or 6-Ph, 6-Me, 6-CF3, 5-CN, 5-CO2Et, and bound through 2-position; or R' = H, 4-OPr, 5-Br, 5-NO2, 3,5-Cl2, and R = Q3] are prepared by reaction of corresponding dihydro azinones with an acid chloride in the presence of a solvent. The process is simplified by carrying it out at an azinone/acid chloride mol ratio of 1:2, using DMF as a solvent. The acid chloride may be selected from SOCl2, POCl3, PCl3, PCl5, and cyanuric chloride.

IT 150537-08-9, 4-Chloro-2-(2-hydroxyphenyl)-5-(ethoxycarbonyl)pyrimidine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chlorination by acid chlorides; preparation of chloro(hydroxyphenyl)azines)

RN 150537-08-9 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-chloro-2-(2-hydroxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)

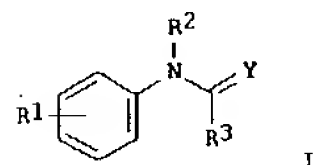
L9 ANSWER 289 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:995215 CAPLUS
 DOCUMENT NUMBER: 124:117098
 TITLE: Preparation of pyridylanilide derivatives as fungicides
 INVENTOR(S): Riordan, Peter Dominic; Boddy, Ian Kenneth; Osbourn, Susan Elisabeth
 PATENT ASSIGNEE(S): Agrevo UK Ltd., UK
 SOURCE: PCT Int. Appl., 35 pp.
 CODEN: PIXX02
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

L9 ANSWER 289 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 (prepn. of anilide derivs. as fungicides)
 RN 173057-93-7 CAPLUS
 CN Benzoic acid, 2-[(2-phenyl-5-pyrimidinyl)carbonyl]amino]-, methyl ester (9CI) (CA INDEX NAME)



| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9525723 | A1 | 19950928 | WO 1995-GB570 | 19950316 |
| W: AU, BG, BR, CA, CN, CZ, FI, HU, JP, KR, KZ, MX, NO, NZ, PL, RO, RU, SD, SK, UA, US | | | | |
| RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9518981 | A1 | 19951009 | AU 1995-18981 | 19950316 |
| AU 688473 | B2 | 19980312 | | |
| EP 750611 | A1 | 19970102 | EP 1995-911403 | 19950316 |
| EP 750611 | B1 | 19980708 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE | | | | |
| CN 1143954 | A | 19970226 | CN 1995-192131 | 19950316 |
| HU 74778 | A2 | 19970228 | HU 1996-2547 | 19950316 |
| HU 214292 | B | 19980302 | | |
| BR 9507105 | A | 19970909 | BR 1995-7105 | 19950316 |
| JP 09510471 | T2 | 19971021 | JP 1995-524455 | 19950316 |
| AT 168099 | E | 19980715 | AT 1995-911403 | 19950316 |
| ZA 9502205 | A | 19951031 | ZA 1995-2205 | 19950317 |
| US 5756524 | A | 19980526 | US 1996-714149 | 19960918 |
| PRIORITY APPLN. INFO.: | | | GB 1994-5347 | 19940318 |
| | | | WO 1995-GB570 | 19950316 |

OTHER SOURCE(S): MARPAT 124:117098-
 GI



AB Title compds. I [X = O, S; R1, R2 = H, alkyl, cycloalkyl, alkenyl, etc.; R3 = (substituted) pyridyl, pyrimidinyl, pyrazinyl, etc.] were prepared by condensation of 6-methoxynicotinoyl chloride with Me anthranilate in the presence of Et3N in THF afforded I (X = O; R1 = R2 = H; R3 = 6-methoxy-3-pyridyl) which showed activity against barley powdery mildew, rice blast and apple scab at ≤ 500 ppm.

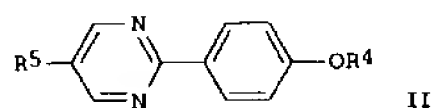
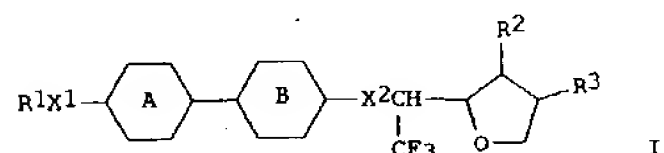
IT 173057-93-7p
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

9/811, 359

09/ 835, 523

L9 ANSWER 290 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:973528 CAPLUS
 DOCUMENT NUMBER: 124:18514
 TITLE: Ferroelectric liquid-crystal composition and liquid-crystal element using same
 INVENTOR(S): Koden, Mitsuhiro; Shiomi, Makoto; Tamai, Kazuhiko; Ito, Keizo; Namekawa, Masaaki
 PATENT ASSIGNEE(S): Sharp Kk, Japan; Kashima Sekyu Kk
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 07197024 | A2 | 19950801 | JP 1992-302422 | 19921112 |
| PRIORITY APPLN. INFO.: | | JP 1992-188375 | 19920715 | |
| OTHER SOURCE(S): | | MARPAT 124:18514 | | |
| GI | | | | |



AB The title liquid-crystal composition contains an optically active compound I [R1 = C1-15 alkyl; R2,3 = H, C1-10 alkyl; X1 = O, single bond; X2 = CO2, CH2O; A, B = p-C6H4-, p-C6H10-, pyrimidine ring] and a compound II [R4,5 = C6-10 alkyl], and shows chiral nematic phase, smectic A phase, and chiral smectic C phase. Also claimed is a ferroelec. liquid-crystal element comprising insulating substrates, elec. conductive films, and orientation control layers and the above liquid-crystal composition

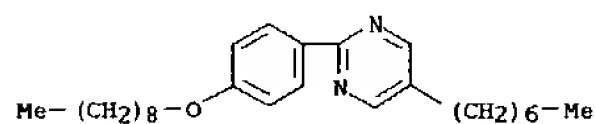
IT 171338-71-9
 RL: DEV (Device component use); USES (Uses)
 (ferroelec. liquid-crystal composition from)
 RN 171338-71-9 CAPLUS
 CN Benzoic acid, 4-(5-dodecyl-2-pyrimidinyl)-, 1-(3-butyltetrahydrofuran-2-yl)-2,2,2-trifluoroethyl ester, [2S-[2α(R'),3β]]-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

L9 ANSWER 290 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

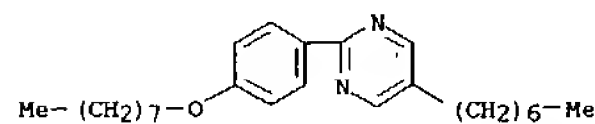
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 CMF C26 H40 N2 O



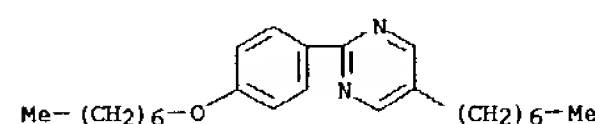
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 CMF C25 H38 N2 O



CM 7

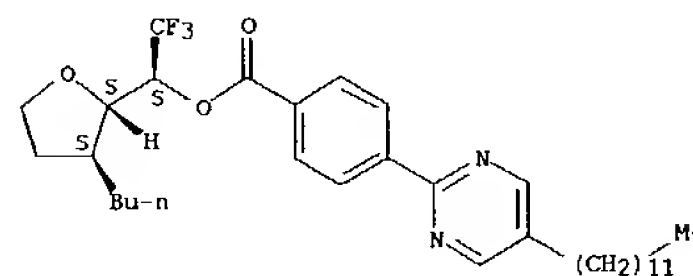
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 CMF C24 H36 N2 O



L9 ANSWER 290 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

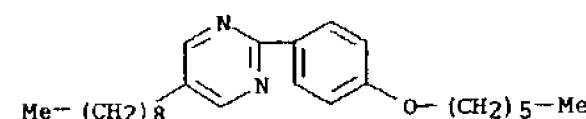
CRN 171247-53-3
 CMF C33 H47 F3 N2 O3

Absolute stereochemistry. Rotation (-).



CM 2

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 3

CRN 57202-52-5
 CMF C28 H44 N2 O



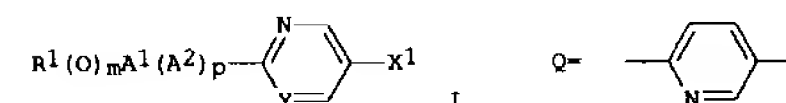
CM 4

CRN 57202-50-3
 CMF C26 H40 N2 O



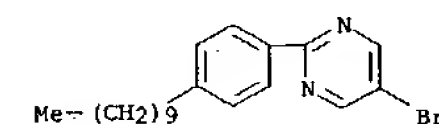
L9 ANSWER 291 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:957956 CAPLUS
 DOCUMENT NUMBER: 124:8835
 TITLE: Preparation of phenylpyrimidine derivatives as intermediates for pharmaceuticals, agrochemicals, and liquid crystals
 INVENTOR(S): Azumai, Takayuki; Fujimoto, Yukari; Matsumoto, Tsutomu; Minamii, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------------------|-----------------|----------|
| JP 07165717 | A2 | 19950627 | JP 1993-316849 | 19931216 |
| PRIORITY APPLN. INFO.: | | JP 1993-316849 | 19931216 | |
| OTHER SOURCE(S): | | CASREACT 124:8835; MARPAT 124:8835 | | |
| GI | | | | |



AB The title compds. I [R1 = H, alkyl, etc.; A1, A2 = Q, etc.; further details related to A1, A2, and p are given; X1 = Br, etc.; Y = N, etc.; m, p = 0 or 1;] are claimed. Thus, a mixture of 2,5-dibromopyrimidine and 4-octyloxy-2,3-difluorophenylboric acid in toluene containing ethanol, aqueous sodium hydrogen carbonate, and tetrakis(triphenylphosphine)palladium was refluxed for 4 h to give, after workup, 5-bromo-2-[4-octyloxy-2,3-difluorophenyl]pyrimidine.

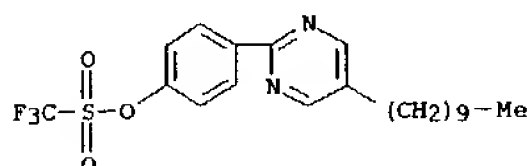
IT 170981-27-8P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of phenylpyrimidine derivs. as intermediates for pharmaceuticals, agrochems., and liquid crystals)
 RN 170981-27-8 CAPLUS
 CN Pyrimidine, 5-bromo-2-(4-decylphenyl)- (9CI) (CA INDEX NAME)



9/811, 359

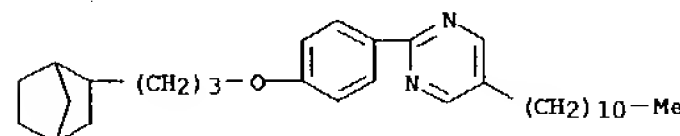
09/835,523

L9 ANSWER 292 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:950790 CAPLUS
DOCUMENT NUMBER: 124:144907
TITLE: An efficient procedure for palladium-catalyzed reduction of aryl/enol triflates
AUTHOR(S): Kotsuki, Hiroyoshi; Datta, Probal Kanti; Hayakawa, Hiroyuki; Suenaga, Hitoshi
CORPORATE SOURCE: Dep. of Chemistry, Kochi Univ., Kochi, 780, Japan
SOURCE: Synthesis (1995), (11), 1348-50
CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:144907
AB An efficient procedure to deoxygenate phenols and enols via trifluoromethanesulfonates is presented. Their reduction with Et₃SiH in the presence of a catalytic amount of Pd(OAc)₂ and bidentate phosphine ligands such as 1,3-bis(diphenylphosphino)propane or 1,1'-bis(diphenylphosphino)ferrocene proceeded efficiently to afford a variety of aromatic, heteroarom., and olefinic compds.
IT 173346-92-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(palladium-catalyzed reduction of aryl enol triflates with triethylsilane)
RN 173346-92-4 CAPLUS
CN Methanesulfonic acid, trifluoro-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



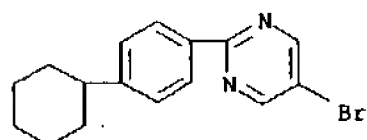
L9 ANSWER 293 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:934013 CAPLUS
DOCUMENT NUMBER: 123:325861
TITLE: Liquid crystal compound for liquid crystal composition and display
INVENTOR(S): Yamada, Yoko; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi; Nakazawa, Ikuro
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|-----------------|----------|
| JP 07179371 | A2 | 19950718 | JP 1993-344738 | 19931221 |
| PRIORITY APPLN. INFO.: | | JP 1993-344738 19931221 | | |
| AB The title liquid crystal display has a liquid crystal composition containing liquid crystal compound R-A-Y-X (R, A, X, Y are specified organic groups) e.g. 5% of 2-(1-tricyclo[3,3,1,1,3,7]decyl)acetic acid 4-(5-decyl pyrimidine-2-yl)phenyl between a pair of electrodes. | | | | |
| IT 170633-42-8 | | | | |
| RL: DEV (Device component use); USES (Uses) (as liquid crystal compound for liquid crystal composition and display) | | | | |
| RN 170633-42-8 CAPLUS | | | | |
| CN Pyrimidine, 2-[4-(3-bicyclo[2.2.1]hept-2-ylpropoxy)phenyl]-5-undecyl- (9CI) (CA INDEX NAME) | | | | |



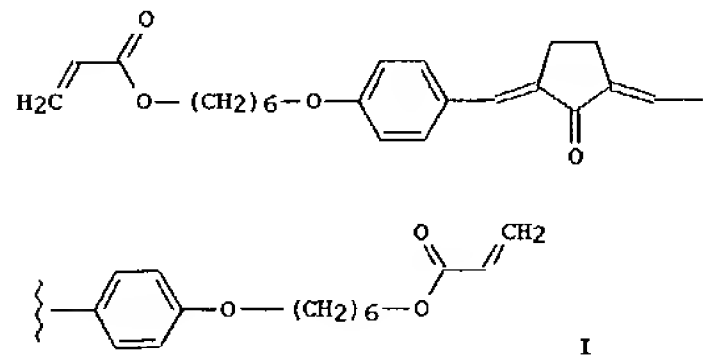
L9 ANSWER 294 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:931290 CAPLUS
DOCUMENT NUMBER: 123:340146
TITLE: Preparation of [1,3,4]-thiadiazole liquid crystal precursors
INVENTOR(S): Fuss, Robert W.; Manero, Javier; Schlosser, Hubert; Wingen, Rainer
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 15 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------------------------|------------------|----------|
| DE 19502178 | A1 | 19950803 | DE 1995-19502178 | 19950125 |
| JP 08048674 | A2 | 19960220 | JP 1995-11937 | 19950127 |
| US 5847149 | A | 19981208 | US 1996-680898 | 19960716 |
| PRIORITY APPLN. INFO.: | | DE 1994-4402361 19940127 US 1995-377850 19950125 | | |
| OTHER SOURCE(S): CASREACT 123:340146; MARPAT 123:340146 | | | | |
| AB The title compds. XBAl(M1A2)m(M2A3)nR1 [A1-A3 = (un)substituted 1,4-phenylene, (un)substituted 2,5-pyrazinediyl, (un)substituted 3,6-pyridazinediyl, (un)substituted 1,4-cyclohexanediyl, etc.; B = 1,3,4-thiadiazol-2,5-diyl; M1, M2 = CO2, O2C, CH2O, OCH2, direct bond, etc.; R1 = H, PhCH2O, alkyl, alkoxy; X = Br, I; m, n = 0, 1], useful as liquid crystal precursors, are prepared by boronic acid coupling in the presence of a base and phosphine ligands. Thus, (5-ethyl[1,3,4]thiadiazol-2-yl)boronic acid was coupled with 2-(4-cyclohexylphenyl)-5-bromopyrimidine in the presence of Na2CO3 and (Ph3P)4Pd, producing 2-[(4-cyclohexylphenyl)pyrimidin-2-yl]-5-ethyl[1,3,4]thiadiazole in 58% yield. | | | | |
| IT 170573-25-8 | | | | |
| RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of [1,3,4]-thiadiazole liquid crystal precursors) | | | | |
| RN 170573-25-8 CAPLUS | | | | |
| CN Pyrimidine, 5-bromo-2-(4-cyclohexylphenyl)- (9CI) (CA INDEX NAME) | | | | |



L9 ANSWER 295 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:921907 CAPLUS
DOCUMENT NUMBER: 123:339397
TITLE: Preparation of polymerizable aryl liquid crystalline compounds
INVENTOR(S): Delavier, Paul; Etzbach, Karl-Heinz; Schmidt, Andreas; Johann, Meyer, Frank; Siemensmeyer, Karl
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Ger. Offen., 38 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------|------|--------------------------|-----------------|----------|
| DE 4405316 | A1 | 19950824 | DE 1994-4405316 | 19940219 |
| WO 9522586 | A1 | 19950824 | WO 1995-EP422 | 19950207 |
| W: BR, CA, CN, JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| PRIORITY APPLN. INFO.: | | DE 1994-4405316 19940219 | | |
| OTHER SOURCE(S): | | MARPAT 123:339397 | | |
| GI | | | | |



AB The title compds. ZYAYMYAYZ [A = spacer group; M = divalent (hetero)aryl mesogenic group; Y = direct bond, O, S, CO2, O2C, (un)substituted CONH, (un)substituted NHCO; Z = polymerizable residue], useful as precursors in the preparation of cholesteric liquid crystalline-ordered coloring agents (no data), are prepared Thus, cyclopentanone derivative, I, m.p. 120-125°, was prepared from 2,5-bis(4-hydroxybenzylidene)cyclopentanone, by condensation with 6-chlorohexanol, followed by esterification with acrylic acid.

IT 170366-22-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of polymerizable aryl liquid crystal compds.)

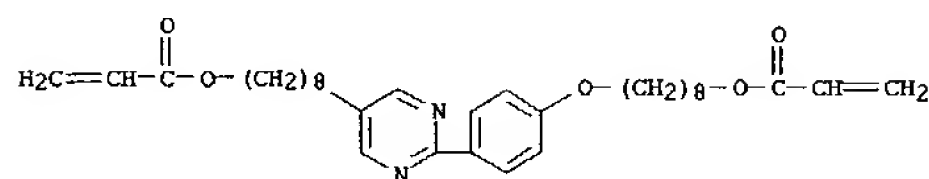
RN 170366-22-0 CAPLUS

CN 2-Propenoic acid, 8-[2-[4-[[8-[(1-oxo-2-propenyl)oxy]octyl]oxy]phenyl]-5-pyrimidinyl]octyl ester (9CI) (CA INDEX NAME)

9/811, 359

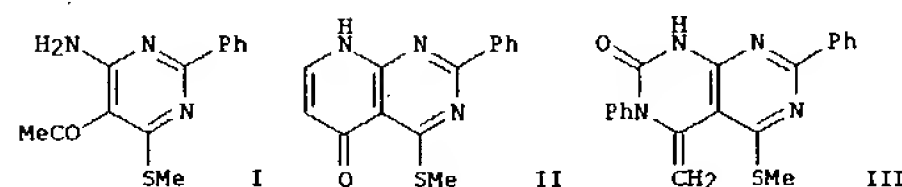
09/835,523

L9 ANSWER 295 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

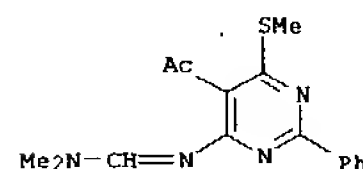


L9 ANSWER 296 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:906836 CAPLUS
DOCUMENT NUMBER: 124:117226
TITLE: 5-Acetyl-6-amino-4-(methylthio)-2-phenylpyrimidine and its use in the synthesis of functionalized pyrido[2,3-d]pyrimidines and pyrimido[4,5-d]pyrimidines
AUTHOR(S): Komkov, A. V.; Sakharov, A. M.; Bogdanov, V. S.; Dorokhov, V. A.
CORPORATE SOURCE: N. D. Zelinsky Inst. of Organic Chemistry, Russian Academy of Sciences, Moscow, 117913, Russia
SOURCE: Izvestiya Akademii Nauk, Seriya Khimicheskaya (1995), (7), 1324-8
CODEN: IASKEA
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI



AB Pyrimidinamine I was prepared from the adduct of BzNCS and acetylketene N-benzoylamine. I was then converted to pyridopyrimidines, e.g., II, and pyrimidopyrimidines, e.g., III.
IT 172951-27-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of)
RN 172951-27-8 CAPLUS
CN Methanimidamide, N'-[5-acetyl-6-(methylthio)-2-phenyl-4-pyrimidinyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

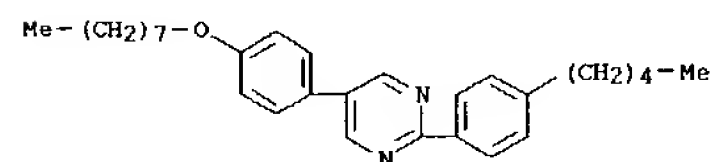


L9 ANSWER 297 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:905040 CAPLUS
DOCUMENT NUMBER: 124:102559
TITLE: Alkyl/alkenyl ether phenyl/biphenylpyrimidines: dependence of the liquid crystal transition temperatures on the position of the nitrogen atoms and the position and configuration of carbon-carbon double bonds
AUTHOR(S): Kelly, S. M.; Fuenfschilling, J.
CORPORATE SOURCE: F. Hoffmann-La Roche Ltd., Dep. RLGR, Basel, CH4002, Switz.
SOURCE: Liquid Crystals (1995), 19(4), 519-36
CODEN: LICRE6; ISSN: 0267-8292
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English

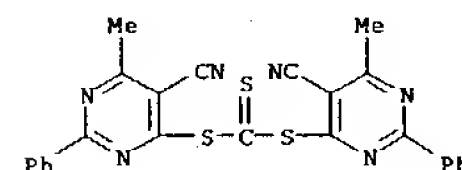
AB The influence on the transition temps. of a C-C double bond in the terminal alkenyl ether chain of four series of three-ring phenylbiphenyl-pyrimidines was systematically studied. The position and configuration of the double bond was varied systematically to determine the optimal configuration and conformation of the terminal chains for smectic C formation. Four positions of the two N atoms were chosen. This produced four isomeric series of pyrimidines and differences in the mesomorphic behavior were observed. The dependence of the transition temps. on chain length was studied for the same four isomeric pyrimidine series. Comparisons between the new three-ring phenyl/biphenyl-pyrimidines and the corresponding two-ring phenylpyrimidines revealed almost identical tendencies. These results are consistent with a linearly-extended conformation of the chain. Several of the new ethers exhibit remarkably low viscosity values (i.e. short response times) and wide switching angles in an optically active base mixture used for evaluation and comparison purposes. Hence they can be used to widen the temperature range of mixts. designed for electrooptic display devices based on ferroelec. effects (FLCDs) without leading to longer response times.

IT 171433-70-8P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation and effect of stereochem. on liquid crystal properties of)
RN 171433-70-8 CAPLUS
CN Pyrimidine, 5-[4-(octyloxy)phenyl]-2-(4-pentylphenyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 298 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

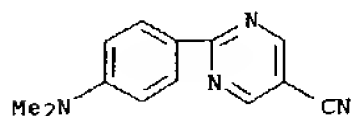
ACCESSION NUMBER: 1995:904617 CAPLUS
DOCUMENT NUMBER: 124:117222
TITLE: Studies on azinethiones: a novel synthesis of bis(azinyl) trithiocarbonates and multi-fused thienoazines
AUTHOR(S): Brian, Ayman W.; Sherif, Sherif M.
CORPORATE SOURCE: Dep. of Chemistry, Cairo University, Giza, Egypt
SOURCE: Heterocycles (1995), 41(10), 2195-202
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:117222
AB A study of the reactivity of azinethione series toward carbon disulfide has been carried out which resulted in a synthesis of bis(azinyl)-trithiocarbonates. Reaction of 4-methylazinethiones with N-bromosuccinimide affords in one pot reaction unexpected multifused heterocyclic compds. E.g., reaction of 2,4-dimethyl-5-cyano-6-pyridinethione with N-bromosuccinimide gave 64% 5-amino-3,4-dihydro-2,7,9-trimethylthieno[2,3-b]pyrido[2',3':3,2]-2,7-naphthyridine-4-thione.
IT 172951-17-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of bis(azinyl) trithiocarbonates and multi-fused thienoazines)
RN 172951-17-6 CAPLUS
CN Carbonotrithioic acid, bis(5-cyano-6-methyl-2-phenyl-4-pyrimidinyl) ester (9CI) (CA INDEX NAME)



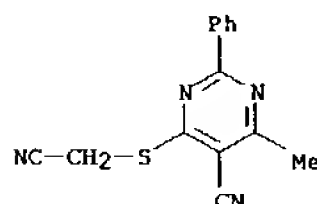
09/ 835,523

9/811,359

L9 ANSWER 299 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:903343 CAPLUS
 DOCUMENT NUMBER: 123:325152
 TITLE: Determination of the first hyperpolarizability of four octupolar molecules and their dipolar subunits via hyper-Rayleigh scattering in solution
 AUTHOR(S): Stadler, S.; Feiner, F.; Braeuchle, Ch.; Brandl, S.; Gompper, R.
 CORPORATE SOURCE: Department of Physical Chemistry, University of Munich, Sophienstrasse 11, Munich, D-80333, Germany
 SOURCE: Chemical Physics Letters (1995), 245(2,3), 292-6
 CODEN: CHPLBC; ISSN: 0009-2614
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The first hyperpolarizability β of four octupole-like mols. and their dipolar subunits has been measured via the hyper-Rayleigh-scattering technique at 1064 nm. The octupolar mols. are tertiary amines with a fully sp^2 -hybridized nitrogen as central atom. The peripheral groups are either Ph or diazabiphenyl units which are acceptor-substituted. The octupolar mols. exhibit high β -values 2.5 to 4 times larger than those of their dipolar subunits at comparable absorption wavelengths.
 IT 170383-43-4
 RL: PRP (Properties)
 (first hyperpolarizability of octupolar mols. and their dipolar subunits determination via hyper-Rayleigh scattering in solution)
 RN 170383-43-4 CAPLUS
 CN 5-Pyrimidinecarbonitrile, 2-[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)

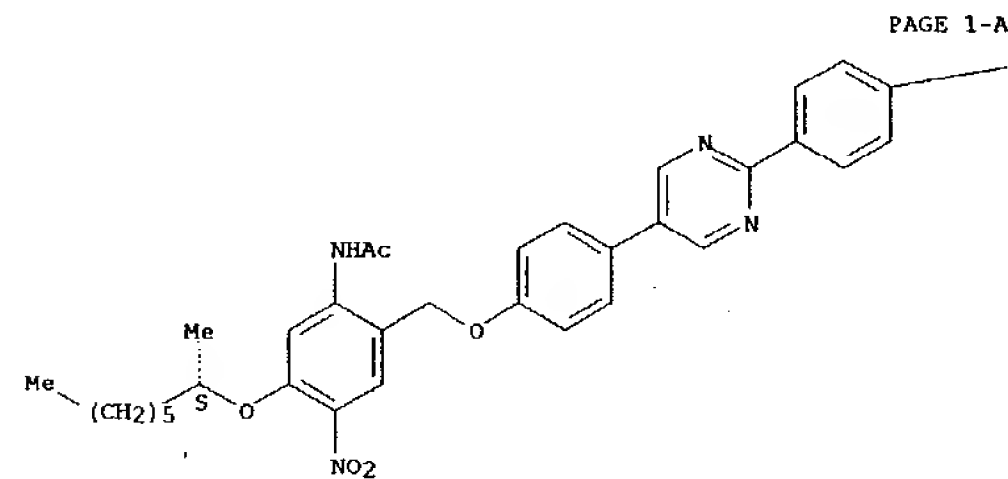


L9 ANSWER 300 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:899358 CAPLUS
 DOCUMENT NUMBER: 124:117124
 TITLE: Electrolytic Partial Fluorination of Organic Compounds. 19. A Novel Synthesis of Fluorothieno[2,3-b]pyridines Using Anodic Fluorination of Heterocyclic Sulfides as a Key Step
 AUTHOR(S): Erian, Ayman W.; Konno, Akinori; Fuchigami, Toshio
 CORPORATE SOURCE: Department of Electronic Chemistry, Tokyo Institute of Technology, Yokohama, 226, Japan
 SOURCE: Journal of Organic Chemistry (1995), 60(23), 7654-9
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 124:117124
 AB Highly regioselective anodic monofluorination of 2-pyridyl and 4-pyrimidinyl sulfides bearing various electron-withdrawing groups were successfully carried out. The fluorinated sulfides were easily converted into 2-fluorothieno[2,3-b]pyridines in good yields.
 IT 172878-31-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of fluorothieno[2,3-b]pyridines using anodic fluorination of heterocyclic sulfides)
 RN 172878-31-8 CAPLUS
 CN 5-Pyrimidinecarbonitrile, 4-[(cyanomethyl)thio]-6-methyl-2-phenyl- (9CI) (CA INDEX NAME)

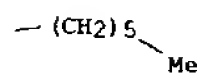


L9 ANSWER 301 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:897471 CAPLUS
 DOCUMENT NUMBER: 123:314732
 TITLE: New ferroelectric liquid crystal polymers for nonlinear optics applications
 AUTHOR(S): Thurmes, William N.; More, Kundalika M.; Vohra, Rohini T.; Wand, Michael D.; Walba, David M.; Keller, Patrick
 CORPORATE SOURCE: Displaytech, Inc., Boulder, CO, 80301, USA
 SOURCE: Materials Research Society Symposium Proceedings (1995), 392(Thin Films for Integrated Optics Applications), 147-56
 CODEN: MRSPDH; ISSN: 0272-9172
 PUBLISHER: Materials Research Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A project directed towards the design and synthesis of ferroelec. liquid crystal polymers (FLCPs) for second order nonlinear optics (NLO) applications are described. The obtained polymers are acrylates and siloxanes with various functional groups. FLCP glasses represent a novel type of solid, a truly noncryst. solid with thermodynamically stable polar order. FLCPs with useful magnitude of the second order susceptibility $\chi(2)$ and processability not possible with poled polymers or crystals have been obtained.
 IT 170661-60-6
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (ferroelec. liquid crystal compds. for nonlinear optics applications)
 RN 170661-60-6 CAPLUS
 CN Acetamide, N-[2-[[4-[2-(4-hexylphenyl)-5-pyrimidinyl]phenoxy]methyl]-5-[(1-methylheptyl)oxy]-4-nitrophenyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



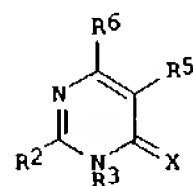
PAGE 1-B



L9 ANSWER 302 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:894116 CAPLUS
 DOCUMENT NUMBER: 123:332750
 TITLE: Preparation of 2-arylpurimidines as herbicides.
 INVENTOR(S): Tice, Colin M.; Musco, Vincent A.; Roemmele, Renee C.; Warner, Harlow L.
 PATENT ASSIGNEE(S): Rohm and Haas Company, USA
 SOURCE: U.S., 35 pp. Cont.-in-part of U.S. 5,300,477.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------|------|----------|-----------------|-------------|
| US 5453414 | A | 19950926 | US 1994-185579 | 19940118 |
| US 5300477 | A | 19940405 | US 1993-62802 | 19930520 |
| US 5726124 | A | 19980310 | US 1994-331249 | 19941028 |
| EP 663396 | A1 | 19950719 | EP 1994-309757 | 19941223 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE | | | | |
| AU 9481812 | A1 | 19950727 | AU 1994-81812 | 19941230 |
| AU 697648 | B2 | 19981015 | | |
| CA 2140182 | AA | 19950719 | CA 1995-2140182 | 19950113 |
| ZA 9500348 | A | 19950718 | ZA 1995-348 | 19950117 |
| HU 70087 | A2 | 19950928 | HU 1995-135 | 19950117 |
| CN 1109879 | A | 19951011 | CN 1995-101695 | 19950117 |
| BR 9500248 | A | 19951017 | BR 1995-248 | 19950118 |
| JP 07278119 | A2 | 19951024 | JP 1995-23485 | 19950118 |
| PRIORITY APPLN. INFO.: | | | US 1993-62802 | A2 19930520 |
| | | | US 1992-916247 | B2 19920717 |
| | | | US 1994-185579 | A2 19940118 |
| | | | US 1994-331249 | A 19941028 |

OTHER SOURCE(S): MARPAT 123:332750
 GI

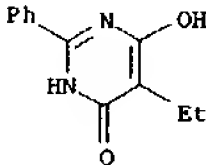


AB The title compds. I [R2 = (un)substituted aryl; R3 = saturated or unsatd. alkyl; R5 = acyl, alkoxyalkyl, alkoxyimino, dialkoxyalkyl, formyl, hydroxyalkyl, hydroxyimino; R6 = H, halo, (halo)alkyl, aryl, alkoxy; X = O or S] are prepared as herbicides. Mixts. of I with some known herbicides, such as urea derivs., are synergistic.
 IT 158715-05-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate in preparation of arylpyrimidine herbicides)
 RN 158715-05-0 CAPLUS
 CN 4(1H)-Pyrimidinone, 5-ethyl-6-hydroxy-2-phenyl- (9CI) (CA INDEX NAME)

9/811, 359

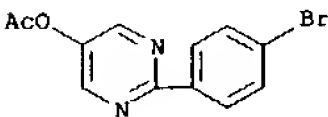
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L9 ANSWER 302 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



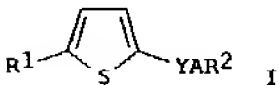
L9 ANSWER 303 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:890009 CAPLUS
DOCUMENT NUMBER: 123:286064
TITLE: Preparation of pyrimidine derivatives and analogs as intermediates for liquid crystals, pharmaceuticals, and agrochemicals
INVENTOR(S): Azumai, Takayuki; Fujimoto, Yukari; Takano, Naoyuki; Minami, Masayoshi
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 07061942 | A2 | 19950307 | JP 1993-320519 | 19931220 |
| PRIORITY APPLN. INFO.: | | | JP 1993-146038 | 19930617 |
| OTHER SOURCE(S): MARPAT 123:286064 | | | | |
| AB The title compds. R1(O)mA1(A2)p(A3)q(CH2)n+2(CHMe)t(O)s(CO)tR2 [R1 = H, OH-protecting group; R2 = H, (halo-substituted) alkyl, etc.; m, p, q, r, s, t = 0 or 1; A1 - A3 = Ph, pyrimidyl, etc.] are claimed. (-)-5-Acetoxy-2-(4-(6-ethoxy-1-heptyl)phenyl)pyrimidine was prepared in a multiple step process starting with 2-(4-bromophenyl)-5-acetoxypyrimidine. | | | | |
| IT 169112-89-4 | | | | |
| RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of pyrimidine derivs. and analogs as intermediates for liquid crystals, pharmaceuticals, and agrochems.) | | | | |
| RN 169112-89-4 CAPLUS | | | | |
| CN 5-Pyrimidinol, 2-(4-bromophenyl)-, acetate (ester) (9CI) (CA INDEX NAME) | | | | |

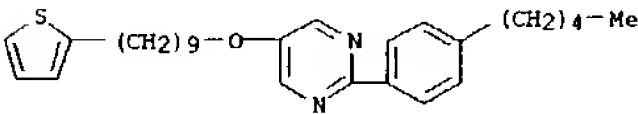


L9 ANSWER 304 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:887968 CAPLUS
DOCUMENT NUMBER: 123:301644
TITLE: Liquid crystal compound for liquid crystal composition used in liquid crystal display
INVENTOR(S): Yamada, Yoko; Takiguchi, Takao; Iwaki, Takashi; Nakazawa, Ikuo; Tokano, Goji; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 73 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07179857 | A2 | 19950718 | JP 1993-345558 | 19931222 |
| PRIORITY APPLN. INFO.: | | | JP 1993-345558 | 19931222 |
| GI | | | | |



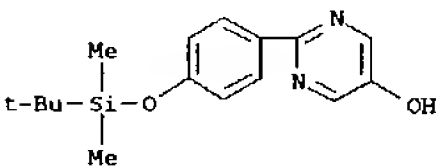
AB The title liquid crystal compound I (A, R, Y are specified organic group) is contained in a liquid crystal composition for forming a liquid crystal display with rapid response and little temperature-dependency.
IT 169551-89-7
RL: DEV (Device component use); USES (Uses) (liquid crystal compound for liquid crystal display)
RN 169551-89-7 CAPLUS
CN Pyrimidine, 2-(4-pentylphenyl)-5-[[9-(2-thienyl)nonyl]oxy]- (9CI) (CA INDEX NAME)



L9 ANSWER 305 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:886137 CAPLUS
DOCUMENT NUMBER: 123:301639
TITLE: Chiral liquid crystal compounds having a perfluoro ether terminal portion
INVENTOR(S): Janulis, Eugene P.; Johnson, Gilbert C.; Radcliffe, Marc D.; Savu, Patricia M.; Snustad, Daniel C.; Spawn, Terence D.
PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co., USA
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9517481 | A1 | 19950629 | WO 1994-US13250 | 19941116 |
| W: AU, CA, FI, JP, KR | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| CA 2177590 | AA | 19950629 | CA 1994-2177590 | 19941116 |
| AU 9511805 | A1 | 19950710 | AU 1995-11805 | 19941116 |
| AU 690944 | B2 | 19980507 | | |
| EP 736078 | A1 | 19961009 | EP 1995-902584 | 19941116 |
| EP 736078 | B1 | 19980624 | | |
| R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| JP 09507059 | T2 | 19970715 | JP 1994-517413 | 19941116 |
| ES 2117847 | T3 | 19980816 | ES 1995-902584 | 19941116 |
| FI 9602535 | A | 19960618 | FI 1996-2535 | 19960618 |
| PRIORITY APPLN. INFO.: | | | US 1993-171569 | 19931222 |
| | | | WO 1994-US13250 | 19941116 |

OTHER SOURCE(S): MARPAT 123:301639
AB A F-containing, chiral liquid crystal compds. comprise: (a) an aliphatic fluorocarbon terminal portion containing ≥ 2 catenary ether O atoms; (b) a chiral, aliphatic hydrocarbon terminal portion; and (c) a central core connecting the terminal portions. The compds. have smectic mesophases or latent smectic mesophases and are useful, for example, in liquid crystal display devices.
IT 169505-19-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (Chiral liquid crystal compds. having a perfluoro ether terminal portion)
RN 169505-19-5 CAPLUS
CN 5-Pyrimidinol, 2-[4-[[[1,1-dimethylethyl]dimethylsilyl]oxy]phenyl]- (9CI) (CA INDEX NAME)

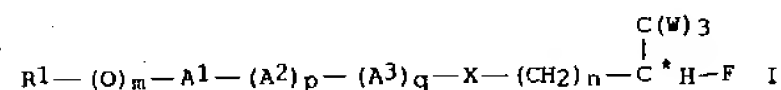


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09/ 835, 523

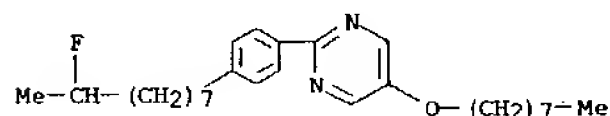
L9 ANSWER 306 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:874746 CAPLUS
 DOCUMENT NUMBER: 123:270902
 TITLE: Fluorine-containing optically active compound, process for preparing the same and liquid crystal mixture and liquid crystal element comprising the same.
 INVENTOR(S): Higashii, Takayuki; Fujimoto, Yukari; Matsumoto, Tsutomu; Minai, Masayoshi; Sekine, Chizu; Endo, Kyoko; Fujisawa, Koichi
 PATENT ASSIGNER(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 30 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------|------|----------|-----------------|----------|
| EP 667384 | A1 | 19950816 | EP 1995-101941 | 19950213 |
| EP 667384 | B1 | 19981216 | | |
| R: CH, DE, FR, GB, IT, LI, NL | | | | |
| JP 07267885 | A2 | 19951017 | JP 1995-20227 | 19950208 |
| US 5779934 | A | 19980714 | US 1995-388424 | 19950214 |
| PRIORITY APPLN. INFO.: JP 1994-17413 | | | | 19940214 |
| OTHER SOURCE(S): MARPAT 123:270902 | | | | |
| GI | | | | |



AB Fluorine-containing optically active compound represented by I (R1 = C3-20 al or alkoxyalkyl; A1-3 = F-containing aromatic group; W = F, H; m, n, p, q = integer) is useful as a component of a liquid crystal mixture. Process for preparing the fluorine-containing optically active compound and liquid crystal mixture and liquid crystal element comprising the same are also claimed.

IT 169288-66-8P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepared as optically active compound for liquid crystal and liquid crystal display)
 RN 169288-66-8 CAPLUS
 CN Pyrimidine, 2-[4-(8-fluorononyl)phenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME)



L9 ANSWER 307 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:872362 CAPLUS
 DOCUMENT NUMBER: 124:41496
 TITLE: Liquid crystal compounds containing chiral 2-halo-2-methylalkoxy tails
 INVENTOR(S): Wand, Michael D.; More, Kundalika M.; Thurmes, William N.
 PATENT ASSIGNEE(S): Displaytech, Inc., USA
 SOURCE: U.S., 24 pp. Cont.-in-part of U.S. Ser. No. 6,263.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 9
 PATENT INFORMATION:

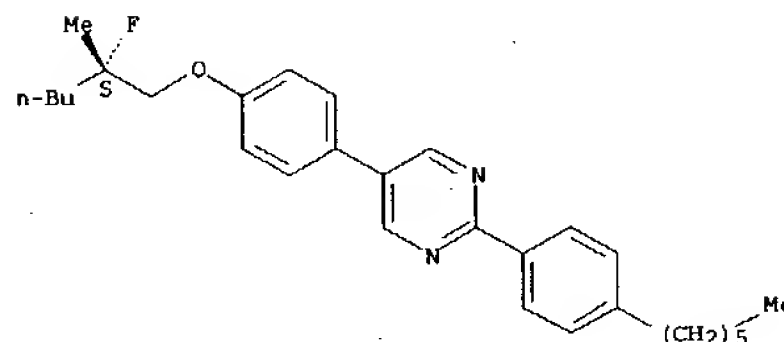
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|-------------|
| US 5453218 | A | 19950926 | US 1994-193254 | 19940208 |
| US 5051506 | A | 19910924 | US 1988-164233 | 19880304 |
| US 5422037 | A | 19950606 | US 1993-6263 | 19930119 |
| US 5585036 | A | 19961217 | US 1995-461377 | 19950605 |
| PRIORITY APPLN. INFO.: US 1988-164233 | | | A2 19880304 | |
| | | | US 1993-6263 | A2 19930119 |
| | | | US 1990-556161 | A2 19900720 |
| | | | US 1994-193254 | A2 19940208 |

OTHER SOURCE(S): MARPAT 124:41496
 AB This invention provides chiral nonracemic compds. of formula R1XR2OCH2C*(CH3)(F)R2 wherein * indicates a chiral carbon atom; R1 and R2, independently of one another, can be an alkyl, alkenyl, or alkynyl group wherein one or more nonneighboring CH2 groups can be replaced with an O, S, or a silyl group (SiR3R4) wherein R3 and R4, independently of one another, are alkyl or alkenyl having from one to six carbon atoms and R1 has from about 3 to 20 carbon atoms and R4 has from 1 to about 18 carbon atoms; X is O, S, CO, COO, OCO, COS, or a single bond; Ar is a liquid crystal core moiety having two or three aromatic rings of the formula -(Cyc)n(A)aP1(B)bP2(C)c(P3)m- wherein P1, P2, and P3, independently of one another, are selected from the group of aromatic rings: 1,4-Ph group, 1,4-Ph group substituted with 1 or 2 halogens, 1,4-Ph group wherein one or two of the ring carbons are replaced with nitrogen atoms or a thiadiazole ring; A, B and C, independently of one another, can be O, S, CH2 O, OCH2, CH2S, SCH2, CH2OCO, CH2CO2, CH2CH2, COO, OCO, COS, a double or triple bond; a, b, and c are either 1 or 0 and a + b + c is 2 or less; Cyc is a 1,4-substituted cyclohexyl ring or a cyclohexenyl ring which can be further substituted with halogen atoms or cyano group or wherein one or two of the CH2 groups of the ring can be replaced with an oxygen atom; and n and m, independently of one another, are 0 or 1. These compds. are useful as components of liquid crystal compns. for use in electrooptical display devices.
 IT 172025-65-9
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrooptical display devices using liquid crystal compns. containing)
 RN 172025-65-9 CAPLUS
 CN Pyrimidine, 5-[4-[(2-fluoro-2-methylhexyl)oxy]phenyl]-2-(4-hexylphenyl)-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 306 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 307 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



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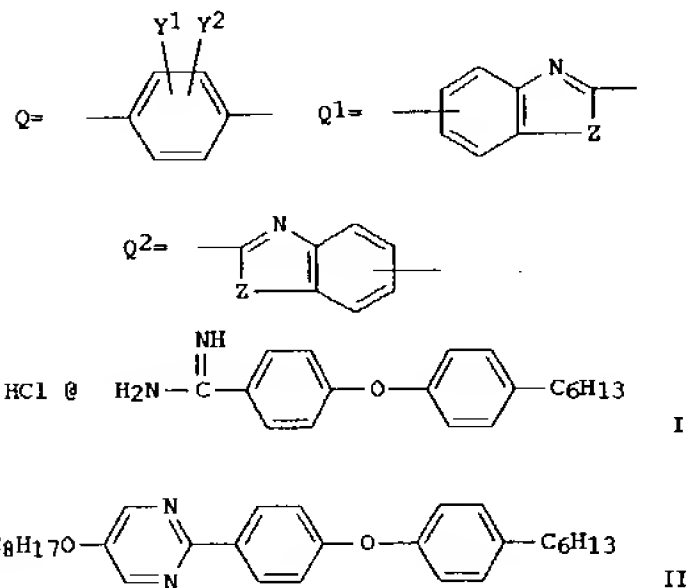
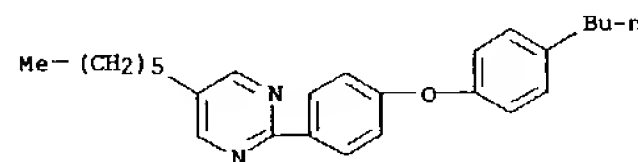
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L9 ANSWER 308 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:849166 CAPLUS
 DOCUMENT NUMBER: 123:242170
 TITLE: Preparation of heterocycle-containing diphenyl ether as liquid crystal and liquid crystal composition, liquid crystal device, display method, and display apparatus
 INVENTOR(S): Iwaki, Takashi; Takiguchi, Takao; Tokano, Goji; Yamada, Yoko; Nakamura, Shinichi; Nakazawa, Ikuo
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 64 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07076542 | A2 | 19950320 | JP 1993-243576 | 19930906 |
| PRIORITY APPLN. INFO.: | | | JP 1993-243576 | 19930906 |

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L9 ANSWER 308 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 Q which is independent from A1; wherein Y1, Y2 = H, F, Cl, Br, Me, cyano, CF3; X1 = single bond, CO2, O2C, CH2O, OCH2, CH2CH2, C.tplbond.C), which is effective for reducing the temp. dependence of electrooptical response speed of a liq. crystal compn., is prepd. Thus, an amidine (I) (prepn. given), C8H17C(:CHNMe2)CHO, and NaOMe were refluxed in MeOH with stirring to give a title compd. (II) in 49.1% yield. A liq. crystal compn. contg. 5.0 wt.% II showed electrooptical response speed 86 and 40 μ s at 10 and 30°, resp., in a liq. crystal cell.
 IT 168828-38-4
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal composition consisting of heterocycle-containing di-Ph ether for liquid crystal display)
 RN 168828-38-4 CAPLUS
 CN Pyrimidine, 2-[4-(4-butyloxy)phenyl]phenyl]-5-hexyl- (9CI) (CA INDEX NAME)



AB A liquid crystal compound R1-A1-X1-A2-O-A3-R2 (R1, R2 = C1-18 linear or branched alkyl, wherein one or two nonadjacent CH2 groups in the alkyl group are optionally replaced by O, S, CO, CO2, or O2C or the H atom of the alkyl group is optionally substituted with F atom; A1 = Q, p-cyclohexylene, 2,5- or 5,2-pyridinediyl, -pyrimidinediyl, or -thiazolenediyl, 2,6-naphthalenediyl, 3,6-pyrazinediyl, 2,5-pyridazinediyl or -thiophenediyl, 1,3,4-thiadiazole-2,5-diyl; wherein Z = O, S; A2, A3 =

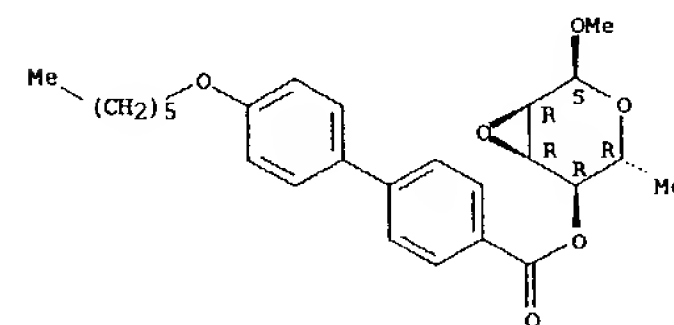
L9 ANSWER 309 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:842410 CAPLUS
 DOCUMENT NUMBER: 123:242630
 TITLE: Preparation of optically active tetrahydropyran derivative for liquid crystal composition and liquid crystal device
 INVENTOR(S): Namekawa, Masaaki; Nayuki, Shinichi; Ito, Keizo; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 07017961 | A2 | 19950120 | JP 1993-161989 | 19930630 |
| PRIORITY APPLN. INFO.: | | | JP 1993-161989 | 19930630 |
| OTHER SOURCE(S): | | MARPAT 123:242630 | | |

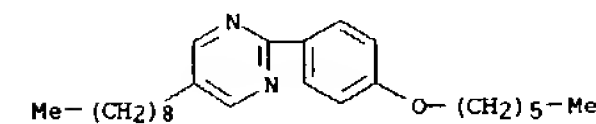
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L9 ANSWER 309 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 responsiveness. Thus, to a soln. of an epoxytetrahydropyran deriv. (II; R = H) (0.50 g) and 1.19 g 4-hexyloxybiphenylcarbonyl chloride in CH2Cl2 was added 0.5 mL pyridine and the mixt. was stirred at room temp. for 40 h to give, after silica gel chromatog., 1.20 g II (R = Q) (III). A ferroelec. liq. crystal compn. contg. 2 wt.% III and a liq. crystal base contg. 4 phenylpyrimidine derivs. (98 wt.%) showed the transition from the smectic A to chiral smectic C phase at 47° and electrooptical response speed 1,345 μ s in a liq. crystal cell.
 IT 168681-21-8
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal composition for display device)
 RN 168681-21-8 CAPLUS
 CN α -D-Allopyranoside, methyl 2,3-anhydro-6-deoxy-, 4'-(hexyloxy)[1,1'-biphenyl]-4-carboxylate, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

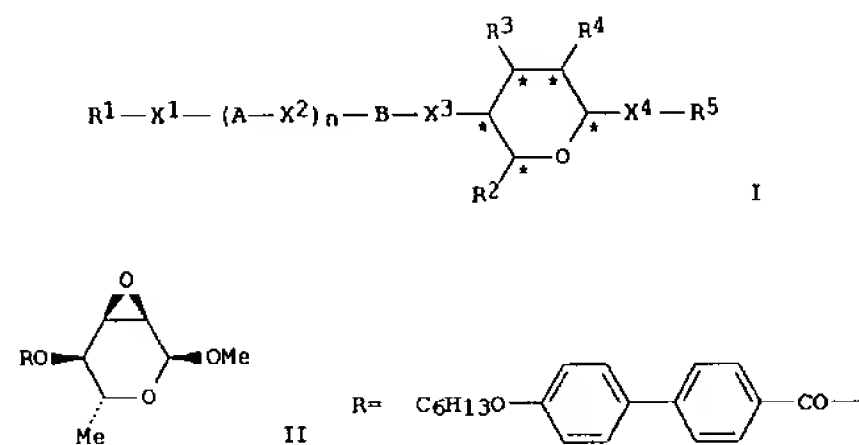
CM 1
 CRN 168681-19-4
 CMF C26 H32 O6
 Absolute stereochemistry. Rotation (+).



CM 2
 CRN 57202-56-9
 CMF C25 H38 N2 O



CM 3
 CRN 57202-52-5
 CMF C28 H44 N2 O

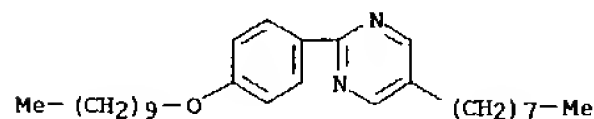


AB The title compds. [I; R1 = linear or branched C3-20 alkyl; R2 = (un)substituted linear or branched C1-10 alkyl, linear or branched alkyloxymethyl or acyloxymethyl, or cyano, wherein the substituent is OH or CH2OH; R3, R4 = H, OH, linear or branched C1-10 alkyl or acyloxy, or R3 and R4 together forms an epoxy group; R5 = H, linear or branched C1-20 alkyl; X1 = CO2, O2C, O, single bond; X2 = CO2, O2C, CH2O, OCH2, C.tplbond.C, single bond; X3 = CO2, CH2O, O; X4 = O, O2C; * indicates an asym. C atom; A, B = (un)substituted 6-membered ring group; n = 0,1], useful as liquid crystal materials for liquid crystal display or electrooptical devices, are prepared. A liquid crystal composition comprises at least one optically active tetrahydropyran derivs. I, a compound other than I having a chiral smectic C phase or a mixture thereof, and/or a compound other I having a smectic C phase or a mixture thereof. A liquid crystal device comprises the said liquid crystal composition which is placed between a pair of electrodes. These compds. I are chemical stable, not discolored, show excellent photostability and fast response, are useful as ferroelec. liquid crystal components which induce a large spontaneous polarization, and when they are made into a liquid crystal composition, improve fast

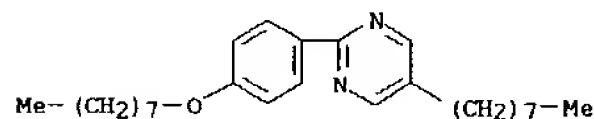
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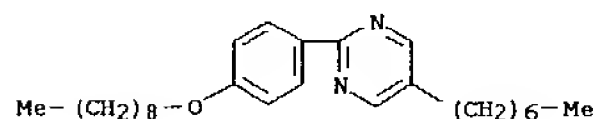
L9 ANSWER 309 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 4
CRN 57202-50-3
CMF C26 H40 N2 O



CM 5
CRN 57202-40-1
CMF C26 H40 N2 O



L9 ANSWER 311 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:833111 CAPLUS
DOCUMENT NUMBER: 124:41968
TITLE: Method of obtaining novel enaminoketone ligands and their metallic complexes
INVENTOR(S): Pyzuk, Wieslaw J.; Krowczynski, Adam
PATENT ASSIGNEE(S): Uniwersytet Warszawski, Pol.
SOURCE: Pol., 10 pp.
CODEN: POXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Polish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| PL 164001 | B1 | 19940630 | PL 1990-285278 | 19900522 |

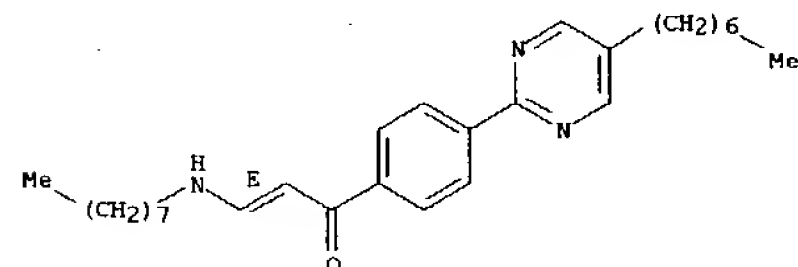
PRIORITY APPLN. INFO.: PL 1990-285278 19900522

AB Preparation is described of the new enaminoketone ligands and their metallic complexes which are suitable for display applications. The new compds. (particularly the ligands) increase clarification point of the liquid crystal compns. with neg. anisotropy. The new ligands are produced by reaction of an aromatic amine (p-substituted aniline or toluidine) with formyl-ketone in its enol form. The complexes are obtained by reaction of the ligand with salts or complexes of divalent metals.

IT 168472-18-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of novel enaminoketone liquid crystalline ligands and their metallic complexes)

RN 168472-18-2 CAPLUS
CN 2-Propen-1-one, 1-[4-(5-heptyl-2-pyrimidinyl)phenyl]-3-(octylamino)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L9 ANSWER 310 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:838809 CAPLUS
DOCUMENT NUMBER: 123:325868
TITLE: Optically nonactive low-molecular weight compound for liquid crystal composition
INVENTOR(S): Ido, Motohisa; Tanaka, Keiji
PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07165672 | A2 | 19950627 | JP 1993-340358 | 19931209 |

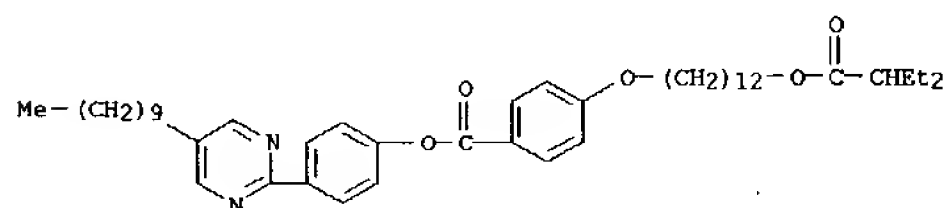
PRIORITY APPLN. INFO.: JP 1993-340358 19931209
OTHER SOURCE(S): MARPAT 123:325868
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The compound has a general structure of I (R1 = selected from Q1-9, H in aromatic ring may be substituted for F; R2 = optically nonactive C4-20 alkyl; l, m, n = integer of 2-20; Y = single bond, O, CO2 or OCO). The compound provides a liquid crystal composition with good elec. field response and improved long-term stability by blending with ferroelec. macromol. liquid crystal compds.

IT 170446-78-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction with diethylacetic acid and tetramethylammonium hydroxide pentahydrate)

RN 170446-78-3 CAPLUS
CN Benzoic acid, 4-[[12-(2-ethyl-1-oxobutoxy)dodecyl]oxy]-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



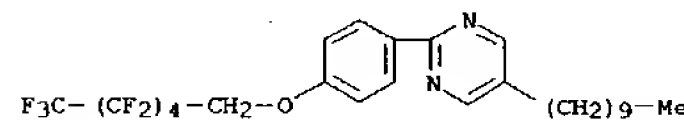
L9 ANSWER 312 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:826083 CAPLUS
DOCUMENT NUMBER: 123:355118
TITLE: Novel layer-by-layer transitions found in free-standing liquid-crystal films
AUTHOR(S): Stoebe, T.; Jin, A. J.; Mach, P.; Huang, C. C.
CORPORATE SOURCE: School of Physics and Astronomy, University of Minnesota, Minneapolis, MN, 55455, USA
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1995), 260, 511-20
CODEN: MCLCE9; ISSN: 1058-725X
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English

AB By using a state-of-the-art a.c. differential free-standing film calorimetric system, three remarkable surface enhanced layer-by-layer transitions in several liquid-crystal compds. were studied. Each of these transitions can be well-described by the simple power-law expression: L = L0t-v. These surface enhanced transitions occur on the smooth substrate with long-range interactions.

IT 159680-03-2
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(layer-by-layer transitions in free-standing liquid-crystal films)

RN 159680-03-2 CAPLUS
CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,6-undecafluorohexyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



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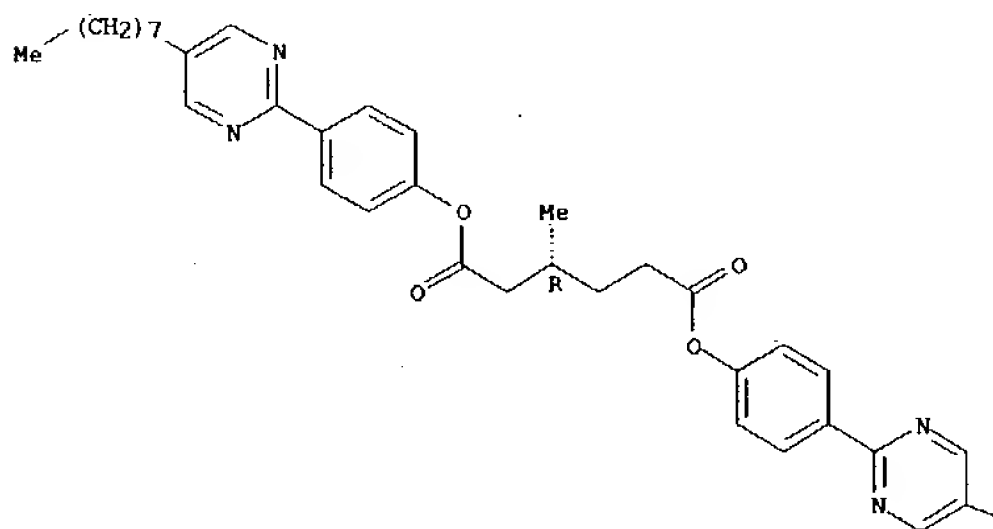
L9 ANSWER 313 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:826072 CAPLUS
 DOCUMENT NUMBER: 123:355109
 TITLE: Interlayer correlation in smectic phases induced by chiral twin molecules
 AUTHOR(S): Yoshizawa, Atsushi; Nishiyama, Isa
 CORPORATE SOURCE: Petroleum Laboratory, Japan Energy Corporation, Saitama, 335, Japan
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1995), 260, 403-22
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Some chiral twin mols. were prepared and the structure-property relations in the system consisting of chiral twin mols. and achiral host mols. were studied. The spacer structure has significant effect on the smectic layer strength and the twisting power in the SmC* phase. C-13 NMR measurements revealed that a chiral twin mol. affects motion of host mols. in the SmA phase. The obtained results are discussed in comparison with the proposed model, where chiral twin mols. are intercalated in the SmC-layers formed by achiral host mols. The chiral twin mols. may produce a strong correlation in host mols. between adjacent layer but decrease the strength of the smectic layer structure.

IT 155854-32-3
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (interlayer correlation in smectic phases induced by chiral twin mols.)
 RN 155854-32-3 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

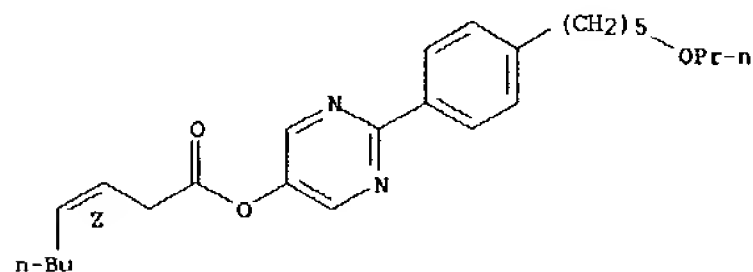


L9 ANSWER 314 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:826046 CAPLUS
 DOCUMENT NUMBER: 124:72504
 TITLE: Synthesis, transition temperatures and some physical properties of some low-melting smectic C materials
 AUTHOR(S): Kelly, Stephen; Fuenfschilling, Juerg
 CORPORATE SOURCE: Dept. RLCR, F. Hoffmann-La Roche Ltd., Basel, CH-4002, Switz.
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1995), 260, 139-56
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB As part of a systematic study of the factors affecting the smectic C phase, a dipole (i.e., an O atom) was introduced into the middle of one of the (nonpolarizable) alkyl chains of a model phenylpyrimidine. A C-C double bond also was introduced and the position and nature (E/Z) of the double bond was varied systematically and the resultant effect on the transition temps. and several other phys. properties of relevance to ferroelec. liquid crystal displays (FLCDs) studied. The new phenylpyrimidines exhibit nematic, smectic C and sometimes highly ordered smectic phases for long chain lengths. The effect of the O atom in a central position in the chain is often to reduce the m.p. (Tm) more than all the other transition temps. (e.g., below room temperature). This often results in a widening of the smectic C temperature range compared to the corresponding compds. without an O atom in the middle of the chain. Of the alkenyl substituted compds. the ethers with a trans double bond in the 2-position [(E)-2-] exhibit the highest TSC values and lowest smectic A transition temps. The ethers with a double bond in a terminal position of the alkenyloxy chain exhibit the widest smectic C mesophase ranges (up to 60°). Of the esters only the (E)-alk-2-enoates exhibit mesomorphic properties.

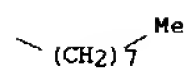
IT 150595-44-1P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (synthesis, transition temps. and phys. properties of low-melting smectic C liquid crystals of)
 RN 150595-44-1 CAPLUS
 CN 3-Octenoic acid, 2-[4-(5-propoxypentyl)phenyl]-5-pyrimidinyl ester, (Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L9 ANSWER 313 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B



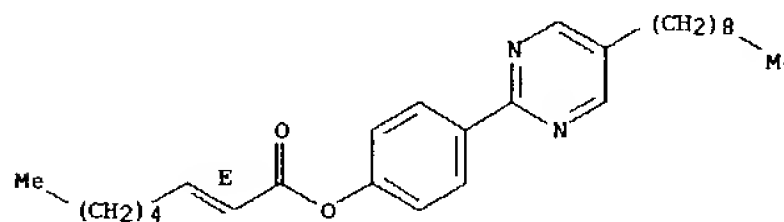
L9 ANSWER 315 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:821145 CAPLUS
 DOCUMENT NUMBER: 124:18721
 TITLE: Three-ring phenyl/biphenylpyrimidine esters: dependence of liquid-crystal transition temperatures and other physical properties on the position of the nitrogen atoms and the double-bond configuration
 AUTHOR(S): Kelly, Stephen M.; Fuenfschilling, Juerg
 CORPORATE SOURCE: Dep. RLCR, F. Hoffman-La Roche Ltd., Basel, CH-4002, Switz.
 SOURCE: Journal of Materials Chemistry (1995), 5(9), 1335-43
 CODEN: JMACEP; ISSN: 0959-9428
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A C-C double bond was introduced into four series of three-ring phenyl/biphenylpyrimidinyl octanoates to produce the corresponding octenoates. The position of the two N atoms in each series is different. For each of the four sep. isomeric series the position and nature (E/Z) of the double bond were varied systematically and the effect on the liquid-crystal transition temps. studied. The new octenoates exhibit nematic and (sometimes highly ordered) smectic phases. A smectic C phase is observed for most isomers. Four homologous series of alkenoates with a trans double bond in the 2-position [(E)-2] were prepared. Three series of the (E)-alk-2-enoates possess broad smectic C and nematic phases at elevated temps. One homologous series is purely nematic. In an admixt. with a chiral smectic C base mixture, some of the (E)-alk-2-enoates can induce a substantial increase in the chiral smectic C and nematic transition temps. The temperature of crystallization is not affected adversely.

Thus, the temperature range of the chiral smectic C mesophase can be significantly increased without increasing the viscosity (and thus response times) excessively. The (E)-alk-2-enoates can also be used to induce a chiral nematic phase in chiral smectic C mixts. (which do not possess one), while at the same time increasing the temperature range of the chiral smectic C phase.

IT 152011-40-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and liquid crystal properties of)
 RN 152011-40-0 CAPLUS
 CN 2-Octenoic acid, 4-(5-nonyl-2-pyrimidinyl)phenyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



09/ 835,523

9/811, 359

L9 ANSWER 316 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:818697 CAPLUS
 DOCUMENT NUMBER: 123:214022
 TITLE: Thiocyanate or cyanate compounds, liquid crystal composition containing them, and liquid crystal optical devices using it
 INVENTOR(S): Kawada, Mitsuru; Shimizu, Yoshiaki; Iida, Koichi; Tanaka, Toshio
 PATENT ASSIGNEE(S): Takeda Chemical Industries Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 07145374 | A2 | 19950606 | JP 1993-291932 | 19931122 |
| PRIORITY APPLN. INFO.: | | JP 1993-291932 19931122 | | |

OTHER SOURCE(S): MARPAT 123:214022

AB The title composition contains 21 kinds of (thio)cyanate, RQ1X1Q2YmQ3ZnQ4C.tplbond.N (R = C1-14 alkyl; X, Y, Z = ring; 1 = 0-2; m, n = 1, 2; Q1 = single bond, ether linkage, ester linkage; Q2, Q3 = single bond, ether linkage, ester linkage, thioester linkage, C.tplbond.C, CH:CH, CH2CH2, methyleneoxy linkage; Q4 = O, S) and shows a smectic A phase.
 IT 168200-59-7

RL: DEV (Device component use); USES (Uses)
 (thiocyanate or cyanate compds., liquid crystal composition containing them,

and liquid crystal optical devices using it)

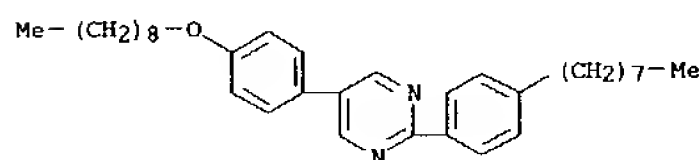
RN 168200-59-7 CAPLUS

CN Benzoic acid, 4-(octyloxy)-, 4-cyanatophenyl ester, mixt. with 4-[5-(4-heptylphenyl)-1,3,4-thiadiazol-2-yl]phenyl cyanate and 5-[4-(nonyloxy)phenyl]-2-(4-octylphenyl)pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 168200-58-6

CMF C33 H46 N2 O



CM 2

CRN 168200-49-5

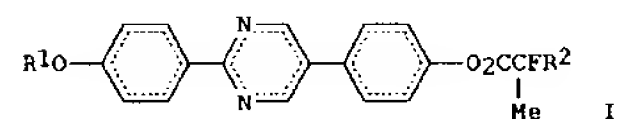
CMF C22 H25 N O4

L9 ANSWER 317 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:818558 CAPLUS
 DOCUMENT NUMBER: 123:214019
 TITLE: Preparation of optically active 5-[4-(2-fluoro-2-methylalkanoyloxy)phenyl]pyrimidine derivative as dopant for mixed liquid crystal and optical switching device
 INVENTOR(S): Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 07010846 | A2 | 19950113 | JP 1993-150479 | 19930622 |
| PRIORITY APPLN. INFO.: | | JP 1993-150479 19930622 | | |

OTHER SOURCE(S): MARPAT 123:214019

GI



AB The title compds. (I; R1 = C4-18 alkyl; R2 = C2-18 alkyl) are prepared A mixed liquid crystal and an optical switching device comprise at least one compound I. These compds. I can take stable thermotropic liquid crystal state, are useful as liquid crystal materials for an optoelectronics-related device such a liquid crystal TV display, optical printer head, optical Fourier transformation device, and light bulb using liquid crystal or electrochromism property, and provide a ferroelec. liquid crystal composition with large spontaneous polarization, low viscosity, and the chiral smectic C phase at a broad range of temperature near room temperature, suitable

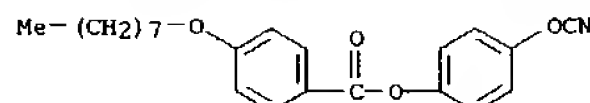
for an optical switching device with capability of fast response. Thus, 5-bromo-2-[4-(2-methylbutyloxy)phenyl]pyrimidine (preparation given) was coupled with a Grignard reagent prepared from 4-methoxymethoxybromobenzene and Mg metal, in THF followed by deprotection with concentrated HCl in 2-propanol and esterification with 2-fluoro-2-methylheptanoic acid using DCC in CH₂Cl₂ to give the title compound I (R1 = EtCHMeCH₂, R2 = pentyl) (II). A ferroelec. liquid crystal composition containing 7 weight% II and a liquid crystal base (93 weight%) comprising 8 phenylpyrimidine derivs. changed from the smectic A phase to the chiral smectic C phase at 64° and showed fast response (50 μs) in a liquid crystal cell.

IT 168191-84-2
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal composition for optical switching device)

RN 168191-84-2 CAPLUS

CN Octanoic acid, 4-(5-hexyl-2-pyrimidinyl)phenyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-hexylpyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 5-hexyl-2-(4'-pentyl[1,1'-

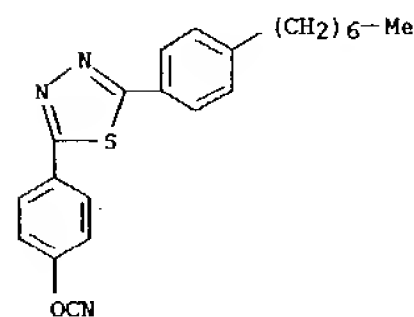
L9 ANSWER 316 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3

CRN 168200-48-4

CMF C22 H23 N3 O S

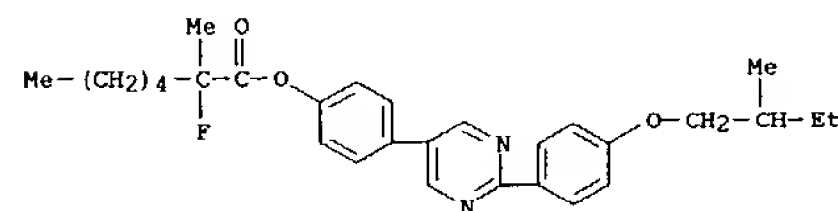


L9 ANSWER 317 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 biphenyl]-4-yl)pyrimidine, 4-[2-[4-(2-methylbutoxy)phenyl]-5-pyrimidinyl]phenyl 2-fluoro-2-methylheptanoate, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 4-(5-octyl-2-pyrimidinyl)phenyl octanoate (9CI) (CA INDEX NAME)

CM 1

CRN 168191-83-1

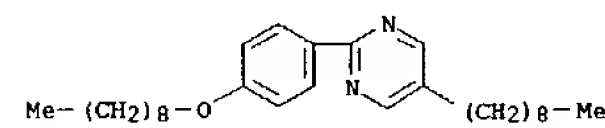
CMF C29 H35 F N2 O3



CM 2

CRN 99895-85-9

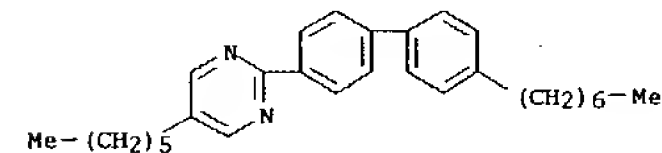
CMF C28 H44 N2 O



CM 3

CRN 92519-52-3

CMF C29 H38 N2



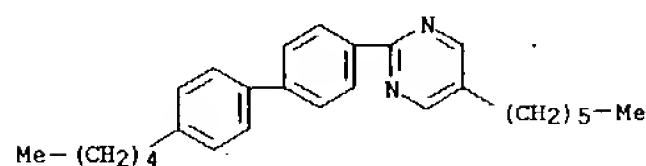
CM 4

CRN 92178-46-6

CMF C27 H34 N2

9/811, 359

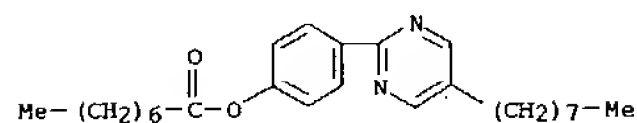
L9 ANSWER 317 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 5

CRN 58415-92-2

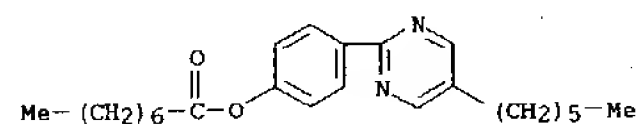
CMF C26 H38 N2 O2



CM 6

CRN 58415-73-9

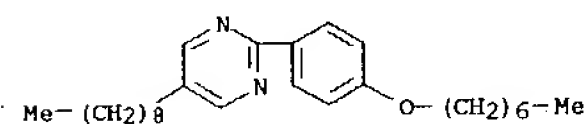
CMF C24 H34 N2 O2



CM 7

CRN 57202-57-0

CMF C26 H40 N2 O

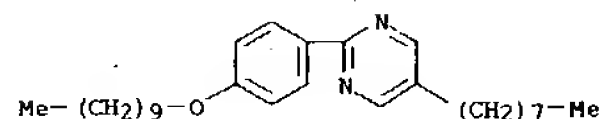


CM 8

CRN 57202-52-5

CMF C28 H44 N2 O

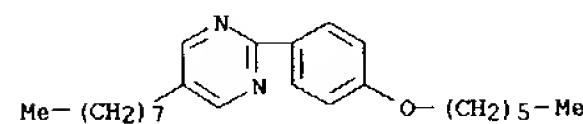
L9 ANSWER 317 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



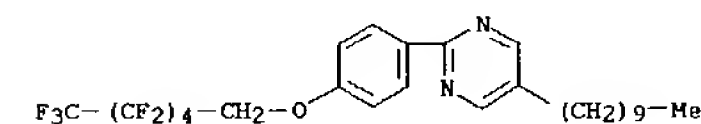
CM 9

CRN 57202-48-9

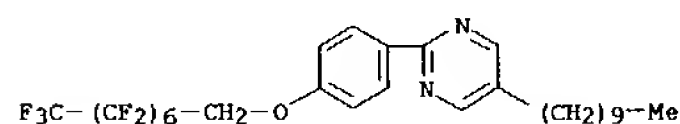
CMF C24 H36 N2 O



L9 ANSWER 319 OF 573 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1995:818263 CAPLUS
DOCUMENT NUMBER: 123:355089
TITLE: Critical fluctuations near the smectic-A-smectic-C transition of a partially perfluorinated compound
AUTHOR(S): Reed, L.; Stoebe, T.; Huang, C. C.
CORPORATE SOURCE: Sch. Physics, Astronomy, Univ. Minnesota, Minneapolis, MN, 55455, USA
SOURCE: Physical Review E: Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (1995), 52(3-A), R2157-R2160
CODEN: PLEEE8; ISSN: 1063-651X
PUBLISHER: American Physical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Using the authors' high-resolution bulk and free-standing film calorimeter the authors have conducted detailed heat-capacity measurements near the smectic-A-smectic-C phase transition of one partially perfluorinated liquid-crystal compound. The thin film data clearly demonstrate the importance of fluctuations due to reduced dimensionality. Also, the data from bulk samples and thick films cannot be adequately fit using the customary extended mean-field model. Successful fitting requires the inclusion of terms characterizing Gaussian fluctuations.
IT 199680-03-2
RL: PEP (Physical, engineering or chemical process); PROC (Process) (critical fluctuations near smectic-A-smectic-C transition of liquid crystals of)
RN 199680-03-2 CAPLUS
CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,6-tetrafluorohexyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



19 ANSWER 318 OF 579 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1995:818326 CAPLUS
DOCUMENT NUMBER: 123:355090
TITLE: Dimerlike smectic-A and -C phases in highly
fluorinated thermotropic liquid crystals
AUTHOR(S): Rieker, Thomas P.; Janulis, Eugene P.
CORPORATE SOURCE: Sandia National Laboratories, Albuquerque, NM,
87185-1349, USA
SOURCE: Physical Review E: Statistical Physics, Plasmas,
Fluids, and Related Interdisciplinary Topics (1995),
52(3-A), 2688-91
CODEN: PLEEE8; ISSN: 1063-651X
PUBLISHER: American Physical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB X-ray scattering studies on a homologous series of thermotropic liquid
crystals with one tail perfluorinated reveal that the smectic layer
thickness depends only on the length of the fluorocarbon tail. D.
measurements in combination with the x-ray results show that the average
cross-sectional area per mol., parallel to the smectic layers, depends
only on the length of the hydrocarbon tail. These exptl. results lead to
a model in which steric interactions drive antiparallel alignment of
nearest neighbors in the smectic-A and -C phases. These unique dimerlike
phases have a layer spacing comparable to the length of the mols.,
demonstrate registration of nearest neighbors along their lengths, and
exhibit ferroelec. switching in the chiral smectic-C phase.
IT 152915-41-8
RL: PRP (Properties)
(dimerlike smectic-A and -C phases in thermotropic liquid crystals of)
RN 152915-41-8 CAPLUS
CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-
pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



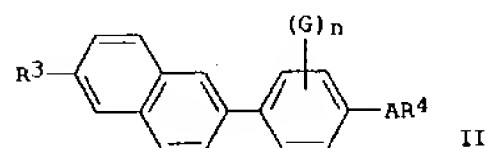
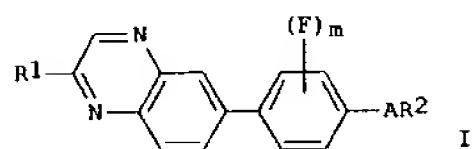
9/811,359

09/ 835,523

L9 ANSWER 320 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:795053 CAPLUS
DOCUMENT NUMBER: 123:184198
TITLE: Liquid crystal compositions and ferroelectric chiral smectic liquid crystal devices using them
INVENTOR(S): Endo, Kyoko; Sekine, Chizu; Fujisawa, Koichi; Takano, Naoyuki; Fujimoto, Yukari; Azumai, Takayuki; Minami, Masayoshi
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------|------|----------|-----------------|----------|
| JP 07126622 | A2 | 19950516 | JP 1994-217664 | 19940912 |
| PRIORITY APPLN. INFO.: OTHER SOURCE(S): | | | JP 1993-227489 | 19930913 |
| MARPAT 123:184198 | | | | |

GI



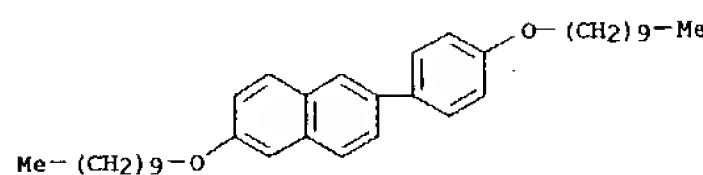
AB The title nonchiral smectic liquid crystal compositions comprise I, II [R1, R3 = C3-20 alkyl, alkoxyalkyl; m, n = 0-2; A = connecting group, O, CO2, OCO, C.tplbond.C, CH:CH; R2, R4 = C1-20 alkyl, alkenyl, C2-20 alkoxyalkyl; F, G = halo], and R5ArX(p-C6H4)R6 [R5 = C5-15 alkyl; alkoxyalkyl; X = single bond, O, CO2, OCO; Ar = 5-phenyl-2-pyrimidyl, 2-phenyl-5-pyrimidyl; R6 = (CH2)pYR7; p = 0-10; Y = single bond, O, CO2, OCO; R7 = C5-15 alkyl].
IT 167860-70-0
RL: DEV (Device component use); USES (Uses)
(liquid crystal compositions and ferroelectric chiral smectic liquid crystal devices using them)
RN 167860-70-0 CAPLUS
CN Benzoic acid, 4-[(hexyloxy)methyl]-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester, mixt. with 2-(decyloxy)-6-[4-(decyloxy)phenyl]naphthalene (9CI) (CA INDEX NAME)
CM 1

L9 ANSWER 321 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:794928 CAPLUS
DOCUMENT NUMBER: 123:184197
TITLE: Optically active compounds, liquid crystal composition containing them, liquid crystal display devices using it, display method, and display apparatus
INVENTOR(S): Nohira, Hiroyuki; Aoki, Yoshio; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 59 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

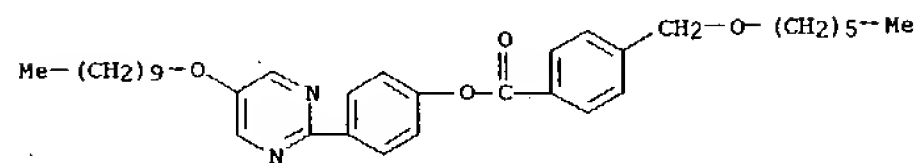
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------|------|----------|-----------------|----------|
| JP 07101894 | A2 | 19950418 | JP 1993-271140 | 19931005 |
| PRIORITY APPLN. INFO.: OTHER SOURCE(S): | | | JP 1993-271140 | 19931005 |
| MARPAT 123:184197 | | | | |

AB The title optically active compds. are represented as R1X1A1A2mA3nX2(p-C6H4)C(CF3)HCH2CH2R2 [R1, R2 = C1-18 alkyl; X1 = single bond, O, CO2, O2C, CO; X2 = CO2, CH2O; A1-3 = Y1- and Y2-substituted p-phenylene, p-cyclohexyl, 2,5-pyrimidyl; Y1, Y2 = H, halo; m, n = 0, 1]. The title liquid crystal composition shows a chiral smectic phase or nematic phase.
IT 167859-99-6
RL: DEV (Device component use); USES (Uses)
(optically active compds., liquid crystal composition containing them, liquid crystal display devices using it, display method, and display apparatus)
RN 167859-99-6 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(decyloxy)-, 4-[1-(trifluoromethyl)heptyl]phenyl ester, (-)-, mixt. with 5-decyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 5-decyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-dodecyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine, trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-butylcyclohexanecarboxylate, trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate and trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-propylcyclohexanecarboxylate (9CI) (CA INDEX NAME)
CM 1
CRN 167859-98-5
CMF C37 H47 F3 O3
Rotation (-).

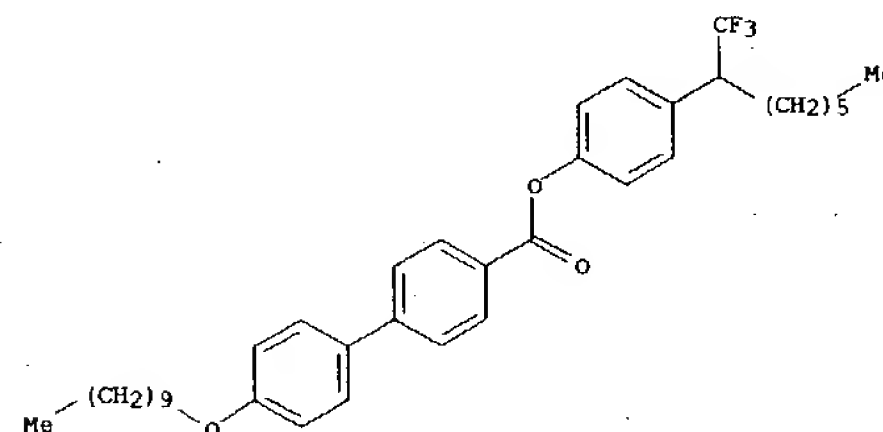
L9 ANSWER 320 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CRN 167860-69-7
CMF C36 H52 O2



CM 2
CRN 167860-67-5
CMF C34 H46 N2 O4

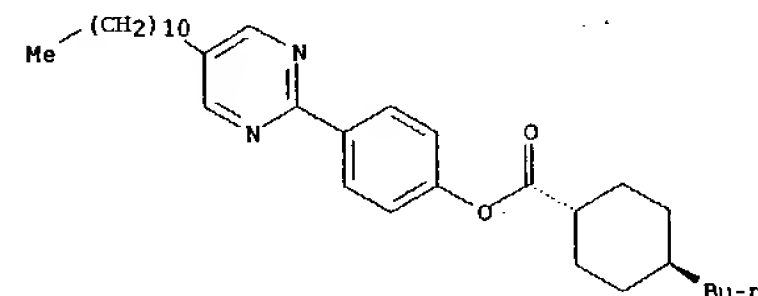


L9 ANSWER 321 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



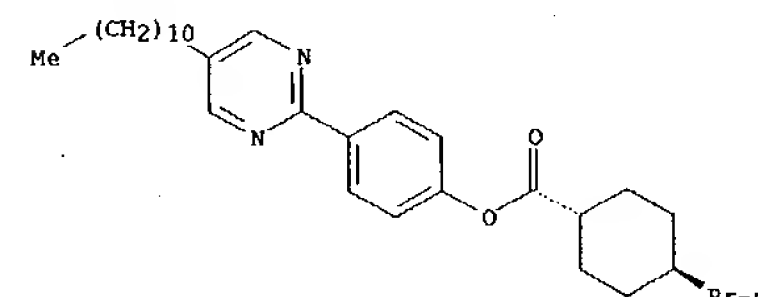
CM 2
CRN 121639-89-2
CMF C32 H48 N2 O2

Relative stereochemistry.



CM 3
CRN 121639-88-1
CMF C31 H46 N2 O2

Relative stereochemistry.



9/811, 359

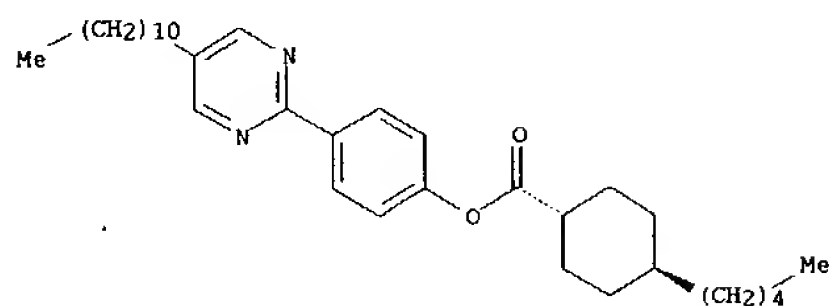
09/ 835, 523

L9 ANSWER 321 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 4

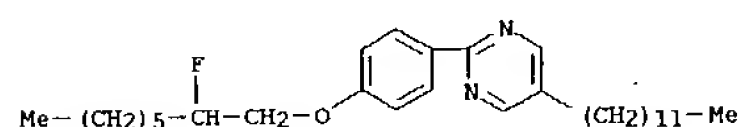
CRN 121083-94-1
CMF C33 H50 N2 O2

Relative stereochemistry.



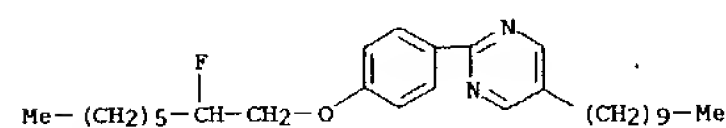
CM 5

CRN 116529-05-6
CMF C30 H47 F N2 O



CM 6

CRN 113701-90-9
CMF C28 H43 F N2 O



CM 7

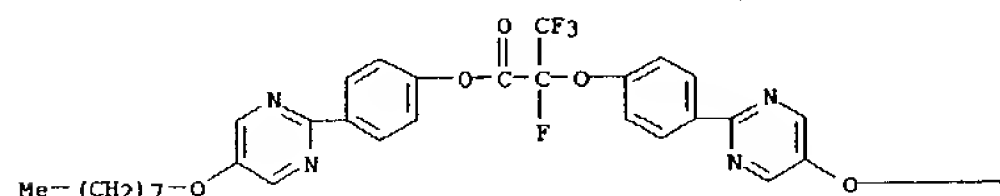
CRN 57202-62-7
CMF C28 H44 N2 O

L9 ANSWER 322 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:789378 CAPLUS
DOCUMENT NUMBER: 123:183690
TITLE: Aryloxy tetrafluoropropionic acid ester, method for production and its use in liquid-crystal mixtures
INVENTOR(S): Fuss, Robert W.; Manero, Javier; Jungbauer, Dietmar
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 16 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

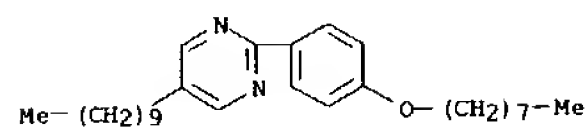
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-----------------|-----------------|----------|
| DE 4444701 | A1 | 19950622 | DE 1994-4444701 | 19941215 |
| US 5547605 | A | 19960820 | US 1994-354666 | 19941213 |
| JP 07242597 | A2 | 19950919 | JP 1994-311925 | 19941215 |
| PRIORITY APPLN. INFO.: | | DE 1993-4342756 | 19931215 | |

OTHER SOURCE(S): MARPAT 123:183690
AB The title compds. are R1-(A1)a(M1)b(A2)OCF(CF3)CO2(A3)(M2)c(A4)d-R2 [R1, R2 = H, CN, F, Cl, straight or branches alkyl in which ≥1 CH2 group may be replaced with O, S, CO, CS, CH:CH, C.tplbond.C, cyclopropane-1,2-diyl, SiMe2, 1,4-phenylene, trans-1,4-cyclohexylene, trans-1,3-cyclopentylene, with the proviso that S and O can not be next to each other; ≥1 H of the alkyl group may be substituted with F, Cl, Br, OR3, SCN, OCN, N3, etc.; M1, M2 = O, CO, COO, OCO, OCOO, OCSO, CH2-O, O-CH2, CH:CH, C.tplbond.C; A1-A4 = substituted 1,4-phenylene, substituted pyrazine-2,5-diyl, substituted pyridazine-3,6-diyl; substituted pyridine-2,5-diyl, substituted pyrimidine-2,5-diyl, substituted 1,4-cyclohexylene, 1,3,4-thiadiazole-2,5-diyl, 1,3-dioxane-2,5-diyl etc.]. The compds. can be used in nematic and cholesteric optically active smectic liquid-crystal mixts. for display devices.
IT 167687-41-4
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(liquid-crystal mixture for display device)
RN 167687-41-4 CAPLUS
CN Propanoic acid, 2,3,3,3-tetrafluoro-2-[4-[5-(octyloxy)-2-pyrimidinyl]phenoxy]-, 4-[5-(octyloxy)-2-pyrimidinyl]phenyl ester (9CI)
(CA INDEX NAME)

PAGE 1-A

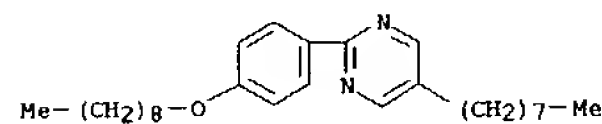


L9 ANSWER 321 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



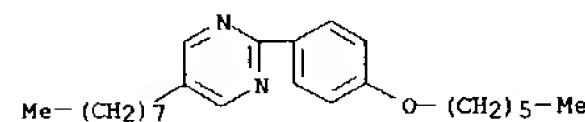
CM 8

CRN 57202-51-4
CMF C27 H42 N2 O



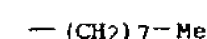
CM 9

CRN 57202-48-9
CMF C24 H36 N2 O



L9 ANSWER 322 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B



9/811, 359

09/835,523

L9 ANSWER 323 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:789336 CAPLUS
 DOCUMENT NUMBER: 123:183683
 TITLE: Liquid crystal composition containing optically active compound for display device
 INVENTOR(S): Nohira, Hiroyuki; Iwamoto, Masayuki; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07133243 | A2 | 19950523 | JP 1994-41111 | 19940311 |
| | | | JP 1993-231679 | 19930917 |

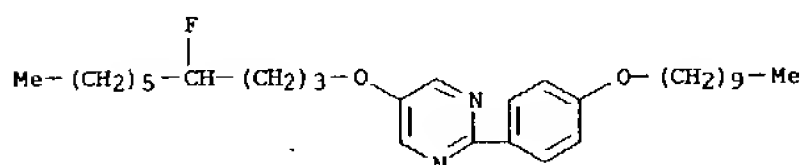
PRIORITY APPLN. INFO.: MARPAT 123:183683
 OTHER SOURCE(S):
 AB The title optically active compound is represented by the formula
 $C_mH_{2m+1}C^*HF(CH_2)_3X_1A_1RA_1R_1$ (R1 = H, halogen, cyano, or C1-18 alkyl which may be substituted with O, S, CO, CH(CN), F, CH=CH, or C≡C; A1 = A2, A2X2A3, or A2X2A3X3A4; A2-4 = 1,4-phenylene, pyridin-2,5-diyl, pyrimidin-2,5-diyl, 1,4-cyclohexylene, thiophen-2,5-diyl, thiadiazol-2,5-diyl, 2,6-naphthylene, benzothiazol-2,6-diyl, or benzooxazol-2,5-diyl; X1 = O or OCO; X2 = a single bond or CO2; X3 = a single bond, CO2, or OCO; m = 1-16; * = optical activity).

IT 167686-48-8
 RL: TEM (Technical or engineered material use); USES (Uses) (liquid crystal composition for display devices)

RN 167686-48-8 CAPLUS
 CN Cyclohexanecarboxylic acid, 4-pentyl-, 4-(5-nonyl-2-pyrimidinyl)phenyl ester, trans-, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine, 2-[4-(decyloxy)phenyl]-5-[(4-fluorodecyl)oxy]pyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 167686-47-7
 CMF C30 H47 F N2 O2



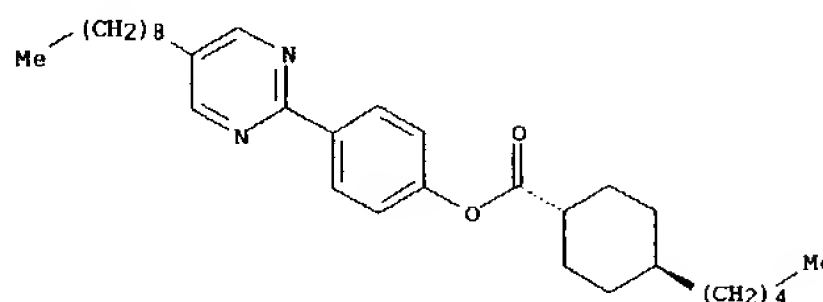
CM 2

CRN 160189-32-2
 CMF C31 H46 N2 O2

L9 ANSWER 323 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

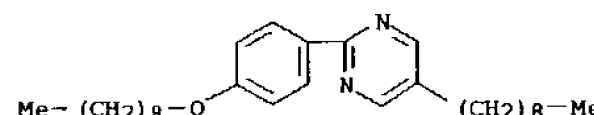
L9 ANSWER 323 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

Relative stereochemistry.



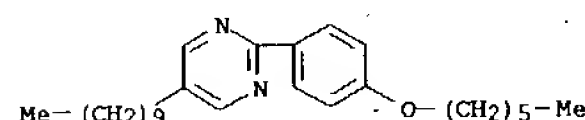
CM 3

CRN 99895-85-9
 CMF C28 H44 N2 O



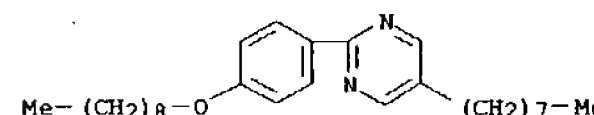
CM 4

CRN 57202-60-5
 CMF C26 H40 N2 O



CM 5

CRN 57202-51-4
 CMF C27 H42 N2 O

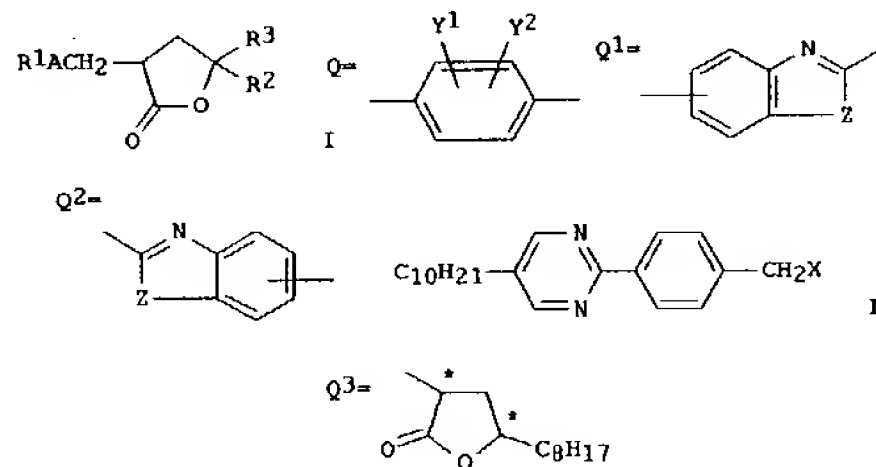


L9 ANSWER 324 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:787179 CAPLUS
 DOCUMENT NUMBER: 123:198786
 TITLE: Preparation of acylmethyl- and [(heterocyclaryl)methyl]butyrolactone derivatives as liquid crystals, and liquid crystal composition, liquid crystal element, display method, and display apparatus
 INVENTOR(S): Iwaki, Takashi; Takiguchi, Takao; Tokano, Goji; Yamada, Yoko; Nakamura, Shinichi; Nakazawa, Ikuro
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07097379 | A2 | 19950411 | JP 1993-243577 | 19930906 |
| | | | JP 1993-243577 | 19930906 |

PRIORITY APPLN. INFO.: MARPAT 123:198786

GI

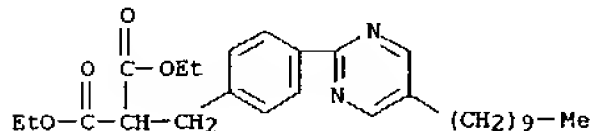


AB The title compds. [I; R1, R, R3 = H, halo, cyano, C1-18 linear, branched, or cyclic alkyl, wherein one or nonadjacent 2 CH2 group(s) is optionally replaced by O, S, CO, CO2, O2C, CH=CH, or C.tplbond.C or the H atom(s) of the alkyl group is optionally substituted by F atom(s); A = A1, A1-A2, A1-A2-A3; wherein A1, A2, A3 = Q, Q1, 1,4-cyclohexyldiene, 2,5- or 5,2-pyridinediyl, 2,5- or 5,2-pyrimidinediyl, 3,6-pyridazinediyl, 2,5-pyrazinediyl, 2,6-naphthalenediyl, 2,5-thiophenediyl, 2,5- or 5,2-thiazolediyl, 1,3,4-thiadiazole-2,5-diyl; wherein Y1, Y2 = H, F, Cl, Br, Me, cyano, CF3; Z = O, S], which provide fast electrooptical response with reduced temperature dependence, are prepared A liquid crystal composition, particularly having chiral smectic phase, contains I. A liquid crystal element comprises said liquid crystal composition placed between a pair of electrode substrates having a rubbing-treated orientation control layer. A liquid crystal apparatus has said liquid crystal element and a driving circuit. Thus, di-Et malonate was treated with NaH in DMF at room temperature and

9/811, 357

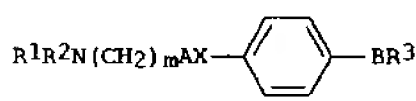
09/ 835, 523

L9 ANSWER 324 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
alkylated by benzyl bromide deriv. (II; X = Br) at 50° for 30 min
to give 94.4% di-Et benzylmalonate deriv. II [X = CH(CO₂Et)₂], which was
cyclocondensed with optically active 1,2-epoxydecane in the presence of
Me₃COH in refluxing Me₃COH for 2 h to give an optically active title
compd. II (X = Q3; the * denotes an asym. C atom) (III) in 78.3% yield. A
liq. crystal compn. contg. 5.00 wt.% III and a mixt. of 6-
phenylpyrimidine derivs. (95% wt.%) showed the transition from the chiral
smectic C phase to the smectic A phase at 41° and electrooptical
response 220 μs at 25° and spontaneous polarization 2.1 nC/cm²
in a ferroelec. liq. crystal cell.
IT 152292-09-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(intermediate for preparation of [aryl- or (heterocyclylaryl)methyl]butyrola
ctone derivs. as liquid crystals)
RN 152292-09-6 CAPLUS
CN Propanedioic acid, [[4-(5-decyl-2-pyrimidinyl)phenyl)methyl]-, diethyl
ester (9CI) (CA INDEX NAME)



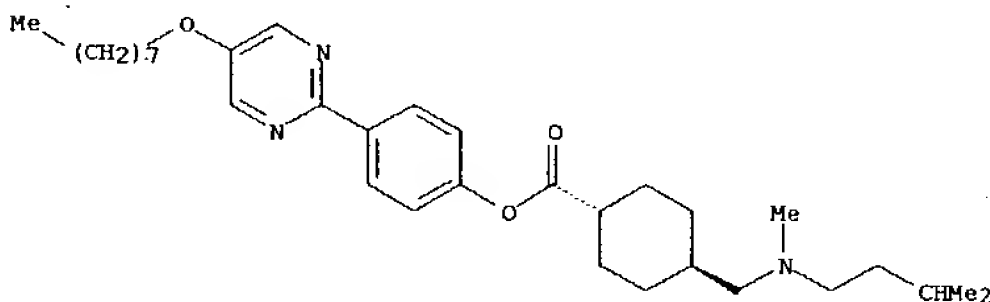
L9 ANSWER 325 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:781912 CAPLUS
DOCUMENT NUMBER: 123:183677
TITLE: Liquid crystal composition for display device
INVENTOR(S): Nishioka, Ayako; Inoe, Osami; Shirane, Hiroo
PATENT ASSIGNEE(S): Showa Denko Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 07126621 | A2 | 19950516 | JP 1993-297403 | 19931102 |
| PRIORITY APPLN. INFO.: | | | JP 1993-297403 | 19931102 |
| OTHER SOURCE(S): | | | MARPAT 123:183677 | |
| GI | | | | |



AB A ferroelec. liquid crystal composition showing a SC or SC* phase over a wide
temperature range including the room temperature and having a quick response time
for use in a display device comprises compds. having the formula I (R1 = C3-16
alkyl; R2 = Me or ethyl; R3 = C3-18 alkyl, alkoxy, alkyloxycarbonyl,
alkanoyloxy, or alkanoyl; A = 1,4-phenylene or trans-1,4-cyclohexylene; B
= 1,4-phenylene or 2,5-pyrimidinyl; X = CO₂ orOCO; m = 0 or 1).
IT 160408-60-6
RL: TEM (Technical or engineered material use); USES (Uses)
(electrooptical display device ferroelec. liquid crystal compns. containing)
RN 160408-60-6 CAPLUS
CN Cyclohexanecarboxylic acid, 4-[[methyl(3-methylbutyl)amino]methyl]-,
4-[5-(octyloxy)-2-pyrimidinyl]phenyl ester, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

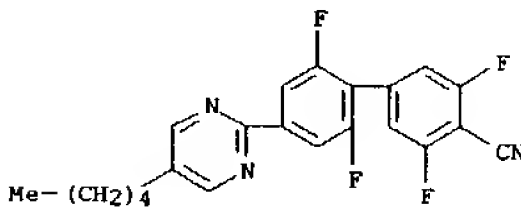


L9 ANSWER 325 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 326 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:774578 CAPLUS
DOCUMENT NUMBER: 123:169368
TITLE: Preparation of 2-fluoroarylnitriles
INVENTOR(S): Reifenrath, Volker
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| DE 4327749 | A1 | 19950223 | DE 1993-4327749 | 19930818 |
| PRIORITY APPLN. INFO.: | | | DE 1993-4327749 | 19930818 |
| OTHER SOURCE(S): | | | MARPAT 123:169368 | |

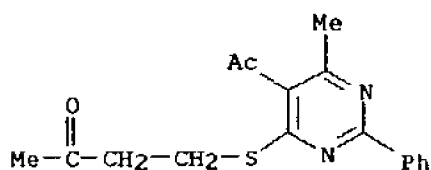
AB The title process comprises treating fluoroarom. with a strong base and a
sulfonylcyanide. Thus, 3-(trans-4-heptylcyclohexyl)fluorobenzene was
stirred with (Me₂HC)N₂Li and 4-MeC₆H₄CO₂CN in THF to give 80%
3-(trans-4-heptylcyclohexyl)fluorobenzonitrile.
IT 159277-54-0P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(preparation of 2-fluoroarylnitriles)
RN 159277-54-0 CAPLUS
CN [1,1'-Biphenyl]-4-carbonitrile, 2',3,5,6'-tetrafluoro-4'-(5-pentyl-2-
pyrimidinyl)- (9CI) (CA INDEX NAME)



9/811,359

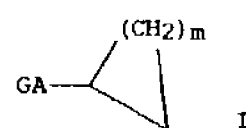
09/835,523

L9 ANSWER 327 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:774480 CAPLUS
 DOCUMENT NUMBER: 123:339982
 TITLE: Synthesis of thiopyrano[2,3-d]pyrimidines and thieno[2,3-d]pyrimidines
 AUTHOR(S): Assy, M. G.; El-Kafrawy, A.; Hassanien, M. M.
 CORPORATE SOURCE: Fac. Sci., Egypt Univ., Zagazig, Egypt
 SOURCE: Polish Journal of Chemistry (1995), 69(6), 887-91
 CODEN: PJCHDQ; ISSN: 0137-5083
 PUBLISHER: Polish Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis of thiopyrano[2,3-d]pyrimidines, thieno[2,3-d]pyrimidines, and thieno[2,3-d]pyrimidine-7,7-dioxides from 5-acetyl-4-mercaptopyrimidines was described.
 IT 170702-51-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of thiopyrano[2,3-d]pyrimidines and thieno[2,3-d]pyrimidines)
 RN 170702-51-9 CAPLUS
 CN 2-Butanone, 4-[(5-acetyl-6-methyl-2-phenyl-4-pyrimidinyl)thio]- (9CI) (CA INDEX NAME)

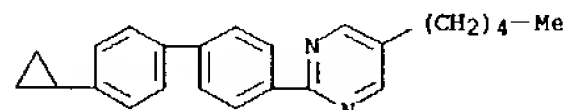


L9 ANSWER 328 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:750527 CAPLUS
 DOCUMENT NUMBER: 123:143424
 TITLE: Preparation of cyclopropyl- und cyclobutyl-derivative liquid crystalline compounds
 INVENTOR(S): Reiffenrath, Volker; Pauluth, Detlef; Junge, Michael
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: Ger. Offen., 18 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

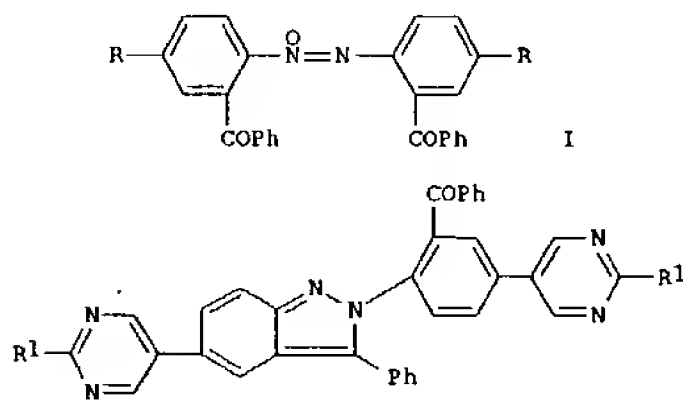
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------|------|----------|-----------------|----------|
| DE 4327748 | A1 | 19950223 | DE 1993-4327748 | 19930818 |
| PRIORITY APPLN. INFO.: DE 1993-4327748 19930818 | | | | |
| OTHER SOURCE(S): MARPAT 123:143424 | | | | |
| GI | | | | |



AB The title compds. [I: A = (un)substituted 1,4-phenylene, 1,4-cyclohexylene, 2,6-naphthdiyl, divalent heterocyclyl, etc.; G = organic mesogenic group; m = 1, 2] [e.g., 4-(trans-4-(trans-4-propylcyclohexyl)cyclohexyl)-1-cyclopropylbenzene: crystalline phase-isotropic phase transition temperature 51°], which have low viscosity, are stable, and demonstrate a pos. dielec. anisotropy, are prepared and are useful as components in the display media of liquid crystal display devices (no data).
 IT 166740-46-1P
 RL: DEV (Device component use); FRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of cyclopropyl- und cyclobutyl-derivative liquid crystalline compds.)
 RN 166740-46-1 CAPLUS
 CN Pyrimidine, 2-(4'-cyclopropyl[1,1'-biphenyl]-4-yl)-5-pentyl- (9CI) (CA INDEX NAME)

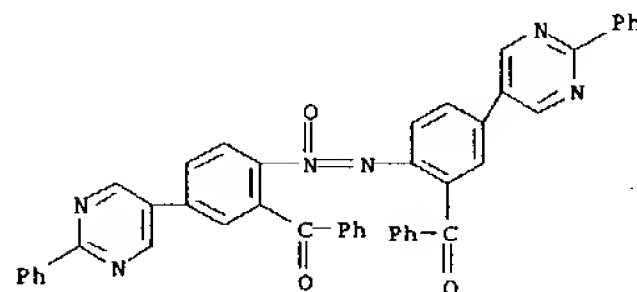


L9 ANSWER 329 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:747639 CAPLUS
 DOCUMENT NUMBER: 123:339975
 TITLE: Reaction of (nitrophenyl)pyrimidines with benzyl cyanide. Synthesis of pyrimidinyl derivatives of 2H-indazole by reductive cyclization of substituted dibenzoylazoxybenzenes
 AUTHOR(S): Novosib. Inst. Org. Khim.
 CORPORATE SOURCE: Novosibirsk, Russia
 SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1995), (4), 540-6
 CODEN: KGSSAQ; ISSN: 0132-6244
 PUBLISHER: Latviiskii Institut Organicheskogo Sintesa
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI



AB Azoxybenzenes I (R = 5-pyrimidinyl, 2-phenyl-5-pyrimidinyl, 5-phenyl-2-pyrimidinyl) were prepared from 4-RC6H4NO2 and PhCH2CN. Reductive cyclization of I (R = 5-pyrimidinyl, 2-phenyl-5-pyrimidinyl) gave indazoles II (R1 = H, Ph).
 IT 170650-60-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reductive cyclization of)
 RN 170650-60-9 CAPLUS
 CN Methanone, [azoxybis[5-(2-phenyl-5-pyrimidinyl)-2,1-phenylene]]bis[phenyl]- (9CI) (CA INDEX NAME)

L9 ANSWER 329 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



9/811,359

09/835,523

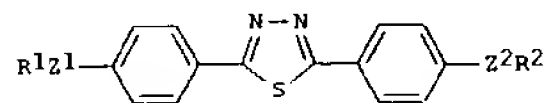
L9 ANSWER 330 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:742637 CAPLUS
DOCUMENT NUMBER: 123:127797
TITLE: New compounds for use in liquid crystal compositions
INVENTOR(S): Takeichi, Ayako; Illian, Gerhard
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 61 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| DE 4434754 | A1 | 19950406 | DE 1994-4434754 | 19940929 |
| US 5695683 | A | 19971209 | US 1994-315091 | 19940929 |
| JP 07150142 | A2 | 19950613 | JP 1994-237396 | 19940930 |
| US 5779935 | A | 19980714 | US 1997-822801 | 19970324 |
| PRIORITY APPLN. INFO.: | | | JP 1993-245485 | 19930930 |
| | | | US 1991-315091 | 19910929 |

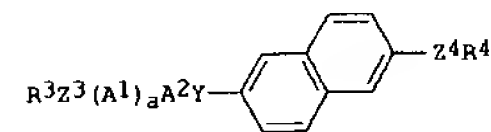
OTHER SOURCE(S): MARPAT 123:127797
GI



I



II



III

AB A ferroelec. liquid-crystal composition comprises ≥ 1 compound from I (where ≥ 1 H of the aromatic ring may be substituted by F, Cl, CN), II (≥ 1 CH group of the aromatic ring may be replaced by CF or N), and III ($m = 1-16$; R = (1) alkyl where 1 or 2 non-adjacent CH₂ may be replaced with O, S, CO, CO₂, O₂C, CO₂, SCO, CH=CH, C.tplbond.C, SiMe₂, OCO₂ and where ≥ 1 H may be replaced by F, Cl, CN, and where a terminal Me can be replaced by cyclopropyl or cyclohexyl group, or (2) alkyloxirane; Z = bond, O, CO₂, O₂C, CH₂O, OCH₂ with the provision that when R is (2) Z is CO₂ or CH₂O; R₁, R₂ = H, R; Z₁, Z₂ = Z with the provision that when R₁ is alkyloxirane Z₁ = CO₂ or CH₂O and when R₂ is alkyloxirane Z₂ is O₂C or OCH₂; A₁, A₂ = 1,4-phenylene where 1 or 2 H may be substituted, pyrazine-2,5-diyl, pyridazine-3,6-diyl, pyridine-2,5-diyl, or pyrimidine-2,5-diyl, where 1 or 2 H may be substituted by F; a = 0, 1; R₃, R₄ = H, R; Y = bond, O₂C, CO₂, OCH₂, CH₂O; Z₃, Z₄ = bond, O, CO₂, O₂C,

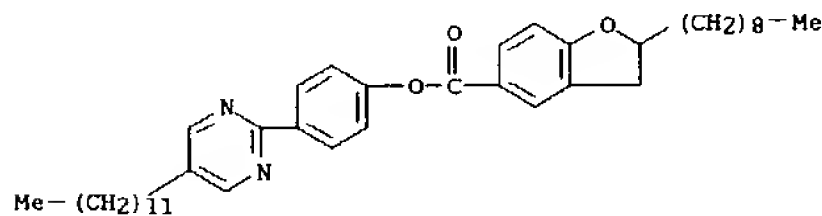
L9 ANSWER 331 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:737405 CAPLUS
DOCUMENT NUMBER: 123:127827
TITLE: Optically active substance and it-containing liquid crystal for liquid crystal display
INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi; Yamada, Yoko; Nakazawa, Ikuro
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 85 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07118255 | A2 | 19950509 | JP 1993-288778 | 19931026 |
| PRIORITY APPLN. INFO.: | | | JP 1993-288778 | 19931026 |

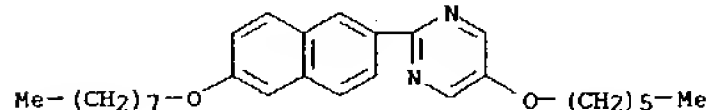
AB The title optically active substance has formula R₁-A₁-X₁-A₂-X₂-A₃-R₂ (R, A, X are specified organic group) and is contained in a liquid crystal composition for liquid crystal display with rapid response and low response dependency to temperature

IT 166399-45-7
RL: DEV (Device component use); USES (Uses)
(optically active substance for liquid crystal display)

RN 166399-45-7 CAPLUS
CN 5-Benzofurancarboxylic acid, 2,3-dihydro-2-nonyl-, 4-(5-dodecyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



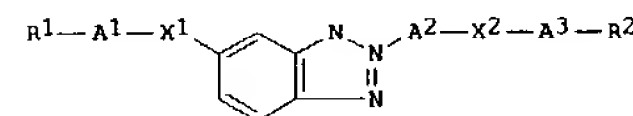
L9 ANSWER 330 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CH₂O, OCH₂ with the provision that when R₃ is alkyloxirane Z₃ = CO₂ or CH₂O and when R₄ is alkyloxirane Z₄ is O₂C or OCH₂). The compn. has a SC-SA phase transition temp. $\geq 60^\circ$ and a cone angle of $\geq 47^\circ$ in the temp. range of 15-35°.
IT 166522-19-6
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(ferroelec. liquid crystal composition)
RN 166522-19-6 CAPLUS
CN Pyrimidine, 5-(hexyloxy)-2-[6-(octyloxy)-2-naphthalenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 332 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:733251 CAPLUS
DOCUMENT NUMBER: 123:127812
TITLE: Liquid crystals and display devices using same
INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi; Yamada, Yoko; Nakazawa, Ikuro
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07089943 | A2 | 19950404 | JP 1993-255324 | 19930920 |
| PRIORITY APPLN. INFO.: | | | JP 1993-255324 | 19930920 |

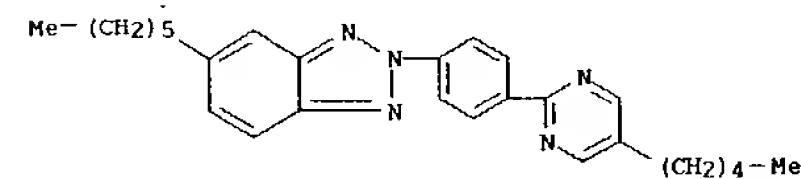
GI



I

AB The title liquid crystal compound is claimed having the formula I [R₁, R₂ = halo, CN, tetrahydrofuranylcarbonyloxy, C₁-18 alkyl which may have 1 or ≥ 2 non-adjacent methylene groups replaced by O, S, CO, COO, OOC, CH=CH, C.tplbond.C, or may have H replaced by F; X₁, X₂ = single bond, COO, OOC, CH₂O, OCH₂, CH₂CH₂, C.tplbond.C; A₁, A₃ = single bond, substituted 1,4-phenylene, 1,4-cyclohexylene, pyrimidine-2,5-diyl, pyridine-2,5-diyl, thiophene 2,5-diyl, naphthalene-2,6-diyl, thiazole-2,5-diyl, 1,3,4-thiadiazole-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl; A₂ = same as A₁ and A₂ exclusive of single bond; when A₁ = single bond, X₁ = single bond; when A₃ = single bond, X₂ = single bond]. Liquid crystal compns. are claimed containing ≥ 1 of the above compds. Liquid crystal devices and liquid crystal displays using the above compns. are claimed.

IT 166257-77-8
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal compound for displays)
RN 166257-77-8 CAPLUS
CN 2H-Benzotriazole, 5-hexyl-2-[4-(5-pentyl-2-pyrimidinyl)phenyl]- (9CI) (CA INDEX NAME)



09/ 835,523

9/811, 359

L9 ANSWER 333 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:716725 CAPLUS
 DOCUMENT NUMBER: 123:354749
 TITLE: Liquid crystal mixture and liquid crystal element comprising the same.
 INVENTOR(S): Sekine, Chizu; Tani, Takeshi; Ueda, Kayoko; Fujisawa, Koichi; Higashii, Takayuki; Fujimoto, Yukari; Toda, Shoji; Minai, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 68 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

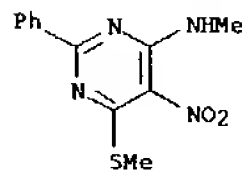
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------|------|----------|-----------------|----------|
| EP 636673 | A2 | 19950201 | EP 1994-111953 | 19940801 |
| EP 636673 | A3 | 19950215 | | |
| EP 636673 | B1 | 19971126 | | |
| R: CH, DE, FR, GB, IT, LI, NL | | | | |
| JP 07102253 | A2 | 19950418 | JP 1994-160352 | 19940712 |
| US 5545345 | A | 19960813 | US 1994-282022 | 19940729 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | JP 1993-208667 | 19930730 |
| | | | JP 1993-198219 | 19930810 |

OTHER SOURCE(S): MARPAT 123:354749
 AB A ferroelec. chiral smectic liquid crystal mixture comprises ≥ 1 compound selected from (1) R11(X1)pAr1Y11(CH(CZ3))q(Y12)rR12, (2) R21(X2)sAr2X22-p-C6H4-Y21(CH(CZ3))t(Y22)uR22, and (3) R31(X3)vArY31(CH(CZ3)) (Y32)wR32 (CH group is an optically active group; R11, R21, R31 = alkyl; R12, R22, R32 = alkyl, alkoxyalkyl; X1-X3, Y12, Y22 = O, CO2, O2C; X22 = CO2, O2C; Ar1, Ar2 = 1,4-phenylene-pyrimidine-2,5-diene; Y11 = (CH2)m, CH:CH(CH2)n (m = 0-10; n = 0-8); Y21 = (CH2)k (k = 0-10 when t is 1 or 0-11 when t is 0); three Z are independently H, F, p, q, r, s, t, u, v, w, a = 0, 1; Ar3 = structure containing two 1,4-phenylene groups and a pyrimidine-2,5-diene group; Y31 = (CH2)j (j = 0-10 when w is 1 or 0-11 when w is 0); Y32 = O, O2C] where the molar ratio of the compound 1 to ≥ 1 of 2 and 3 is from 80:20 to 20:80. The composition provides high contrast.

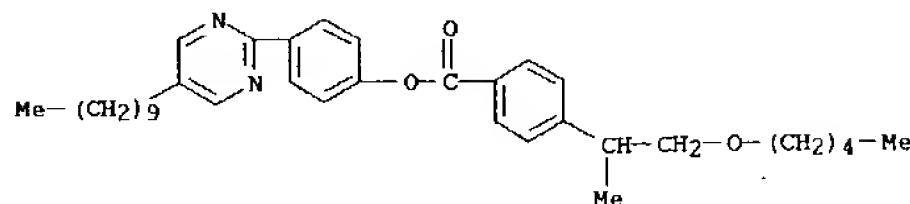
IT 165729-19-1
 RL: DEV (Device component use); USES (Uses)
 (ferroelec. chiral smectic high contrast liquid-crystal composition)
 RN 165729-19-1 CAPLUS
 CN Benzoic acid, 4-[1-methyl-2-(pentyloxy)ethyl]-, 4-(5-decyl-2-pyrimidinyl)phenyl ester, mixt. with 5-(decyloxy)-2-[4-(5-ethoxyhexyl)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 165729-18-0
 CMF C35 H48 N2 O3

L9 ANSWER 334 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:716564 CAPLUS
 DOCUMENT NUMBER: 123:128312
 TITLE: 6-Methylamino-4-methylthio-5-nitro-2-phenylpyrimidine
 AUTHOR(S): Hernandez, R. Pomes; Rodriguez, J. Duque; Trimino, M. I. Garcia; de Armas, H. Novoa; Toscano, R. Alfredo
 CORPORATE SOURCE: Natl. Cent. Sci. Res., Havana, Cuba
 SOURCE: Acta Crystallographica, Section C: Crystal Structure Communications (1995), C51(7), 1392-4
 CODEN: ACSCEE; ISSN: 0108-2701
 PUBLISHER: Munksgaard
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The title compound, C12H12N4O2S, is essentially planar, the dihedral angle between the pyrimidine and Ph rings being 11.4(3)°. There are no unusual intra- or intermol. distances or angles. The mol. are packed with normal van der Waals distances. Crystallog. data and atomic coordinates are given.
 IT 166041-34-5
 RL: PRP (Properties)
 (crystal structure of)
 RN 166041-34-5 CAPLUS
 CN 4-Pyrimidinamine, N-methyl-6-(methylthio)-5-nitro-2-phenyl- (9CI) (CA INDEX NAME)

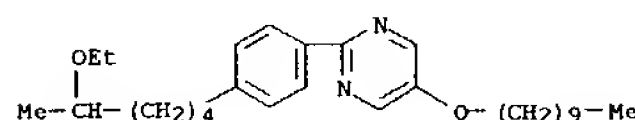


L9 ANSWER 333 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

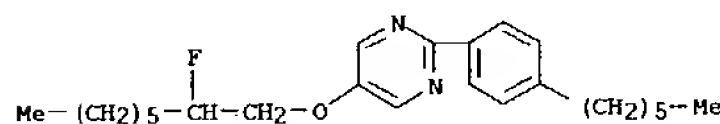


CM 2

CRN 158829-05-1
 CMF C28 H44 N2 O2



L9 ANSWER 335 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:710843 CAPLUS
 DOCUMENT NUMBER: 123:169167
 TITLE: Submicrosecond preliminary process of electric-field-induced reorientation of a ferroelectric liquid crystal, 5-(2-fluoroalkoxy)-2-(4-n-alkylphenyl)-pyrimidine, studied by time-resolved infrared spectroscopy
 AUTHOR(S): Katayama, Norishisa; Sato, Takashi; Ozaki, Yukihiro; Murashiro, Katsuyuki; Kikuchi, Makoto; Saito, Shinichi; Demus, Dietrich; Yuzawa, Tetsuro; Hamaguchi, Hiro-O
 CORPORATE SOURCE: Department of Chemistry, School of Science, Kitasato University Kitasato, Sagamihara, 228, Japan
 SOURCE: Applied Spectroscopy (1995), 49(7), 977-80
 CODEN: APSPA4; ISSN: 0003-7028
 PUBLISHER: Society for Applied Spectroscopy
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Pulsed elec.-field-induced reorientation of a ferroelec. liquid crystal (FLC), 5-(2-fluorooctyloxy)-2-(4-hexylphenyl)-pyrimidine, has been investigated by using a dispersive submicrosecond time-resolved IR spectroscopic technique. The observed absorbance decay for a band at 1440 cm-1 due to a ring-stretching mode of the phenylpyrimidine group indicates that the FLC mol. reorients from a stationary state with a slight delay (less than 1 μ s) just after the upswing of the elec. field, while counter-reorientation occurs with a delay time of a microsecond after the reverse of the elec. field. The delay time for the counter-reorientation changes with temperature, indicating that the viscosity has a strong influence on the delay time. The whole FLC mol. reorients simultaneously as a rigid rod in both the preliminary and the counter-reorientation process.
 IT 155430-65-2
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (elec. field-induced reorientation of ferroelec. liquid crystal)
 RN 155430-65-2 CAPLUS
 CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-hexylphenyl)- (9CI) (CA INDEX NAME)



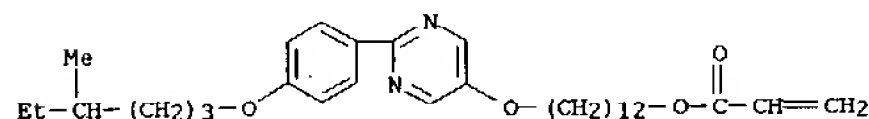
9/811, 359

09/ 835, 523

L9 ANSWER 336 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:708936 CAPLUS
DOCUMENT NUMBER: 123:314798
TITLE: Novel (meth)acrylate esters useful for polymeric matrix in liquid-crystal display
INVENTOR(S): Watanabe, Tetsuya; Nakano, Tomoharu
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

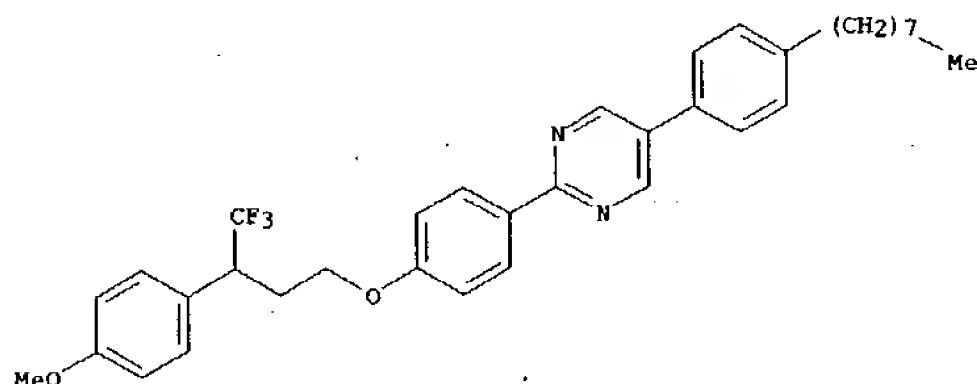
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 07118205 | A2 | 19950509 | JP 1993-287625 | 19931022 |
| | | | JP 1993-287625 | 19931022 |

PRIORITY APPLN. INFO.: MARPAT 123:314798
OTHER SOURCE(S):
AB Title esters H2C:CRCO2(CH2)nXA1A2YR1 [I: R = H, Me; n = 1-15; X, Y = single bond, O, CO2, OCO; A1, A2 = (F-substituted) 1,4-phenylene, (F-substituted) 2,5-pyrimidylene; R1 = (asym. C-containing) C3-15 alkyl, polyfluoroalkyl], useful for polymer matrixes in polymer dispersion liquid crystal (PDLC) devices with low driving voltage, are prepared. Thus, 3.0 g 2-(4-hexyloxyphenyl)-5-hydroxypyrimidine was treated with 3.9 g 1,12-dibromododecane in Me2SO in the presence of aqueous NaOH at room temperature to give 4.9 g 2-(4-hexyloxyphenyl)-5-(12-bromododecyloxy)pyrimidine, 4.0 g of which was treated with 0.6 g acrylic acid in Me2SO in the presence of NaHCO3 at 70° to give 2.6 g I (R = H, n = 12, X = Y = O, R1 = C6H13, A1 = 2,5-pyrimidylene, A2 = 1,4-phenylene), which showed phase transfer temperature 79.1° (crystallization phase) and 84.6° (smectic A phase). A PDLC device prepared from a mixture of I (R = H, n = 12, X = Y = O, A1 = 2,5-pyrimidylene, A2 = 1,4-phenylene, R1 = 4-methylhexyl), Sartomer 395, Irgacure 184, and ZLI 4803 (liquid crystal) required a driving voltage 5 V, vs. 30 V in the absence of I.
IT 170312-81-9
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(novel (meth)acrylate esters useful for polymeric matrix in liquid-crystal display)
RN 170312-81-9 CAPLUS
CN 2-Propenoic acid, isodecyl ester, polymer with 12-[[2-[4-[(4-methylhexyl)oxy]phenyl]-5-pyrimidinyl]oxy]dodecyl 2-propenoate (9CI) (CA INDEX NAME)
CM 1
CRN 169549-46-6
CMF C32 H48 N2 O4



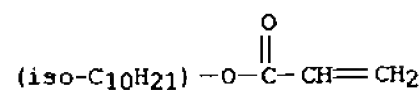
L9 ANSWER 337 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:689073 CAPLUS
DOCUMENT NUMBER: 123:213937
TITLE: New antiferroelectric liquid crystals with a trifluoromethyl group at the chiral center
AUTHOR(S): Aoki, Yoshio; Nohira, Hiroyuki
CORPORATE SOURCE: Dep. Applied Chemistry, Saitama Univ., Saitama, 338, Japan
SOURCE: Liquid Crystals (1995), 19(1), 15-19
CODEN: LICRE6; ISSN: 0267-8292
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English
AB New antiferroelec. liquid crystals (AFLCs) with a trifluoromethyl group at the chiral center were synthesized using optically active 3-(4-methoxyphenyl)-4,4,4-trifluorobutanoic acid. The new AFLCs showed the phase sequence on cooling: isotropic liquid (I)-smectic A (SA) phase-antiferroelec. (AF) phase-crystal (Cr). In the antiferroelec. phase, a d.c.-threshold, a double hysteresis loop, a small dielec. constant value and two sharp switching-current peaks were observed. These are the 1st examples that are AFLCs which do not have a carbonyl moiety in the mol.
IT 167703-06-2
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(antiferroelec. liquid crystals transition temps. and textures of)
RN 167703-06-2 CAPLUS
CN Pyrimidine, 5-(4-octylphenyl)-2-[4-[4,4,4-trifluoro-3-(4-methoxyphenyl)butoxy]phenyl]-, (-)- (9CI) (CA INDEX NAME)

Rotation (-).

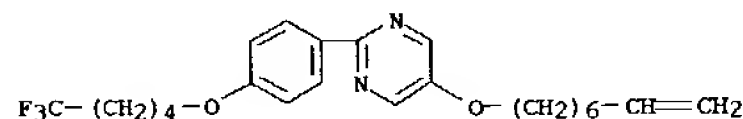


L9 ANSWER 336 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 2
CRN 1330-61-6
CMF C13 H24 O2
CCI IDS



L9 ANSWER 338 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:684206 CAPLUS
DOCUMENT NUMBER: 123:270602
TITLE: Ferroelectric liquid crystalline polymers for display applications
AUTHOR(S): Blatter, K.; Jungbauer, D.; Harnischfeger, P.; Simmrock, H. -U.; Walton, C.
CORPORATE SOURCE: HOECHST AG, Frankfurt/Main, 6230, Germany
SOURCE: Transactions of the Materials Research Society of Japan (1994), 15A(Biomaterials, Organic and Intelligent Materials), 331-4
CODEN: TMRJE3; ISSN: 1382-3469
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Requirements on ferroelec. liquid crystalline polymers (FLCP) for large area displays are discussed. It is demonstrated that FLCP based on side chain liquid crystal polysiloxane copolymers with phenylpyrimidine mesogenic groups are useful for practical display applications.
IT 154839-05-10, reaction product with poly(dimethylsiloxane-methylsiloxane)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(ferroelec. liquid crystalline polymers for display applications)
RN 154839-05-1 CAPLUS
CN Pyrimidine, 5-(7-octenyloxy)-2-[4-[(5,5,5-trifluoropentyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



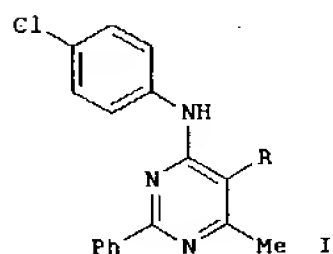
9/811, 35J

09/ 835, 523

L9 ANSWER 339 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:682845 CAPLUS
DOCUMENT NUMBER: 123:83387
TITLE: Method of preparing 2-phenyl-4-(4'-chlorophenylamino)-6-methyl-5-(hydroxymethyl)pyrimidine
INVENTOR(S): Machon, Zdzislaw; Cieplik, Jerzy; Wieczorek, Zbigniew; Zimecki, Michal
PATENT ASSIGNEE(S): Akademia Medyczna, Pol.
SOURCE: Pol., 3 pp.
CODEN: POXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Polish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| PL 164076 | B1 | 19940630 | PL 1990-284351 | 19900315 |
| PRIORITY APPLN. INFO.: | | | PL 1990-284351 | 19900315 |

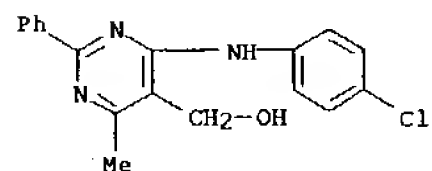
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AB Title compound I (R = CH₂OH) (II) is prepared by reduction of I (R = CO₂Et) with LiAlH₄ in anhydrous THF. An example gave 82.2% yield of II. Strong immunostimulant activity was demonstrated by II both in vitro and in vivo, e.g., using the Jerne test and GvH tests (no addnl. data).

IT 154957-61-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of phenyl(chlorophenyl)aminomethyl(hydroxymethyl)pyrimidine as immunostimulant)

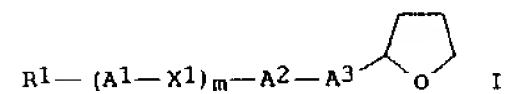
RN 154957-61-6 CAPLUS
CN 5-Pyrimidinemethanol, 4-[(4-chlorophenyl)amino]-6-methyl-2-phenyl- (9CI)
(CA INDEX NAME)



L9 ANSWER 340 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:662464 CAPLUS
DOCUMENT NUMBER: 123:70522
TITLE: Chiral compounds, liquid crystal compositions containing them, and liquid crystal display devices
INVENTOR(S): Nakazawa, Ikuo; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Yamada, Yoko; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 71 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07070113 | A2 | 19950314 | JP 1993-242160 | 19930903 |
| PRIORITY APPLN. INFO.: | | | JP 1993-242160 | 19930903 |

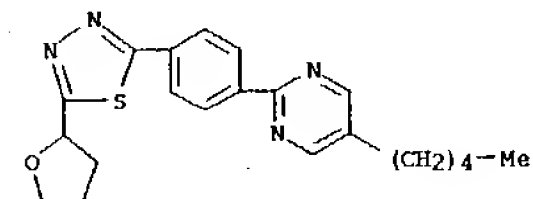
OTHER SOURCE(S): MARPAT 123:70522
GI



AB The title liquid crystal compns. contain chiral compds., I (R1 = H, halo, CN, C1-18 alkyl; m = 0, 1; A1-3 = connecting group containing ring(s); X1 = single bond, CO₂, O₂C, CH₂O, OCH₂).

IT 164655-21-4
RL: MOA (Modifier or additive use); USES (Uses)
(optically active compds.)

RN 164655-21-4 CAPLUS
CN Pyrimidine, 5-pentyl-2-[4-[5-(tetrahydro-2-furanyl)-1,3,4-thiadiazol-2-yl]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 339 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

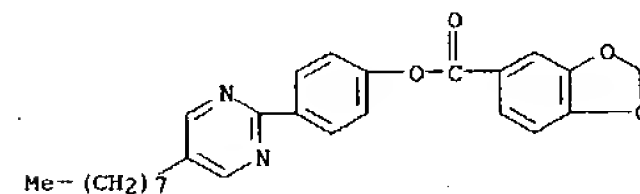
L9 ANSWER 341 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:662463 CAPLUS
DOCUMENT NUMBER: 123:70521
TITLE: Liquid crystal compounds, liquid crystal compositions containing them, and liquid crystal display devices
INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi; Yamada, Yoko; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 112 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07070108 | A2 | 19950314 | JP 1993-235959 | 19930830 |
| PRIORITY APPLN. INFO.: | | | JP 1993-235959 | 19930830 |

AB The title liquid crystal compns. contain liquid crystal compds., R1A1X1A2X2A3R2 [R1, R2 = H, halo, CN, 2-tetrahydrofuran-carboxyl, C1-18 alkyl; X1, X2 = single bond, CO₂, O₂C, CH₂O, OCH₂, CH₂CH₂, C.tplbond.C; A1-3 = connecting group containing ring(s); at least one of A1-3 is 1,3-benzodioxole].

IT 161614-24-0
RL: MOA (Modifier or additive use); USES (Uses)
(liquid crystal compds.)

RN 161614-24-0 CAPLUS
CN 1,3-Benzodioxole-5-carboxylic acid, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



9/811, 359

09/ 835,523

L9 ANSWER 342 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:659648 CAPLUS
 DOCUMENT NUMBER: 123:70529
 TITLE: Ferroelectric liquid crystal composition with good orientation and low viscosity
 INVENTOR(S): Watanabe, Tetsuya
 PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 07082562 | A2 | 19950328 | JP 1993-253780 | 19930916 |
| PRIORITY APPLN. INFO.: | | | JP 1993-253780 | 19930916 |
| OTHER SOURCE(S): | | MARPAT 123:70529 | | |

GI

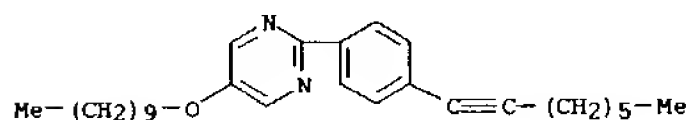
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title liquid crystal composition comprises (A) a liquid crystal compound I (R1, R2 = C1-18 alkyl; X = single bond, O) and (B) ≥1 liquid crystal compound selected from II-V (R3, R7 = C1-12 alkyl, H; p, s = 1-12; NAP = 2,6-naphthylene; q, r, t, y = 0-5; C* = asym. C; R4, R6, R8, R10 = C2-10 alkyl; R5, R9 = R1).

IT 164581-67-3
 RL: TEM (Technical or engineered material use); USES (Uses) (liquid crystal composition)

RN 164581-67-3 CAPLUS
 CN 2-Naphthalenecarboxylic acid, 6-[[4-(decyloxy)benzoyl]oxy]-, 2-methylbutyl ester, mixt. with 5-(decyloxy)-2-[4-(1-octynyl)phenyl]pyrimidine, 1-methylheptyl 6-[[4-(dodecyloxy)benzoyl]oxy]-2-naphthalenecarboxylate and 4-[(4-methylhexyl)oxy]phenyl 4-(decyloxy)benzoate (9CI) (CA INDEX NAME)

CM 1
 CRN 134264-94-1
 CMF C28 H40 N2 O



CM 2
 CRN 119557-76-5

L9 ANSWER 343 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:659647 CAPLUS
 DOCUMENT NUMBER: 123:44508
 TITLE: Ferroelectric liquid crystal composition with high-contrast
 INVENTOR(S): Yoshio, Kunikyo; Yanagi, Tatsuro; Watanabe, Tetsuya
 PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

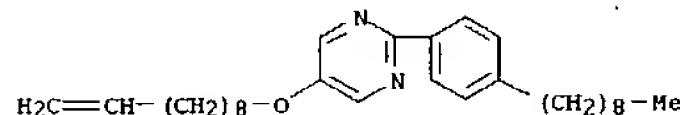
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 07082560 | A2 | 19950328 | JP 1993-253779 | 19930916 |
| PRIORITY APPLN. INFO.: | | | JP 1993-253779 | 19930916 |

AB The title liquid crystal composition shows the absolute value of total entropy of the phase transfer from its isotropic liquid crystal phase to its smectic A phase ≥40 mJ/g.K.

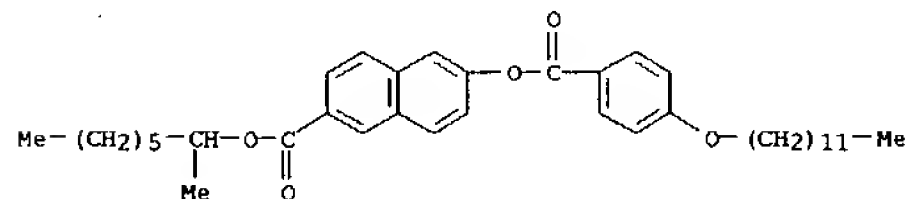
IT 164581-65-1
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (liquid crystal composition with specified phase transfer entropy)

RN 164581-65-1 CAPLUS
 CN 2-Naphthalenecarboxylic acid, 6-[[4-(decyloxy)benzoyl]oxy]-, 2-methylbutyl ester, mixt. with 5-(9-decenyloxy)-2-(4-nonylphenyl)pyrimidine, 1-methylheptyl 6-[[4-(dodecyloxy)benzoyl]oxy]-2-naphthalenecarboxylate and 4-[(4-methylhexyl)oxy]phenyl 4-(decyloxy)benzoate (9CI) (CA INDEX NAME)

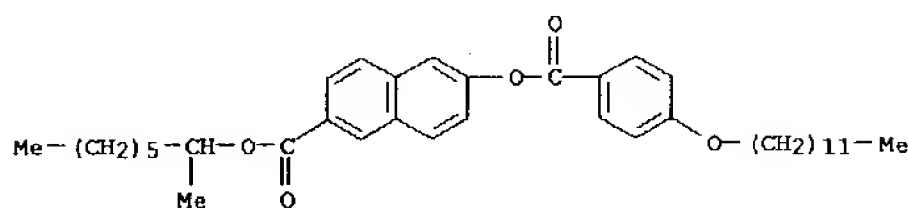
CM 1
 CRN 157784-63-9
 CMF C29 H44 N2 O



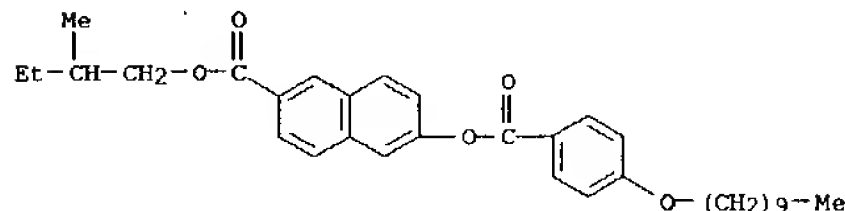
CM 2
 CRN 119557-76-5
 CMF C38 H52 O5



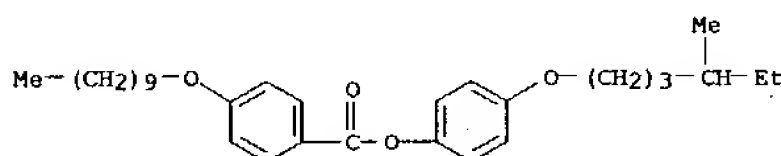
L9 ANSWER 342 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C38 H52 O5



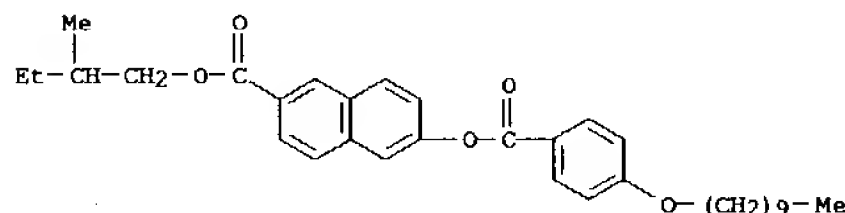
CM 3
 CRN 119557-41-4
 CMF C33 H42 O5



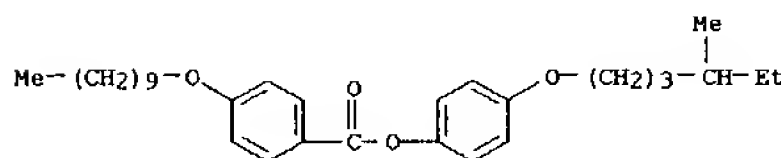
CM 4
 CRN 108134-05-0
 CMF C30 H44 O4



L9 ANSWER 343 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM 3
 CRN 119557-41-4
 CMF C33 H42 O5



CM 4
 CRN 108134-05-0
 CMF C30 H44 O4

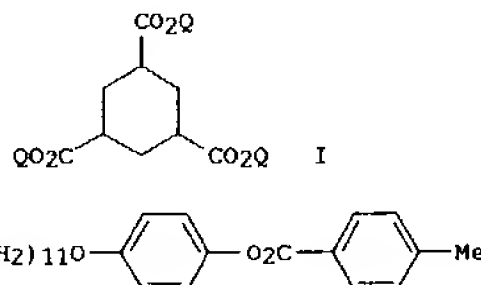


9/811, 359

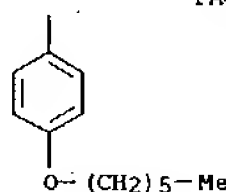
09/835,523

L9 ANSWER 344 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:638387 CAPLUS
 DOCUMENT NUMBER: 123:32785
 TITLE: Preparation of carboxyl residue-containing liquid crystal compounds
 INVENTOR(S): Delavier, Paul; Etzbach, Karl Heinz; Schmidt, Andreas
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------------------|------|----------|-----------------|----------|
| DE 4332733 | A1 | 19950330 | DE 1993-4332733 | 19930925 |
| WO 9508604 | A1 | 19950330 | WO 1994-EP3069 | 19940914 |
| W: CN, JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 720641 | A1 | 19960710 | EP 1994-927612 | 19940914 |
| EP 720641 | B1 | 19980812 | | |
| R: CH, DE, FR, GB, LI, NL | | | | |
| CN 1134168 | A | 19961023 | CN 1994-194026 | 19940914 |
| JP 09504788 | T2 | 19970513 | JP 1994-509540 | 19940914 |
| WO 9630351 | A1 | 19961003 | WO 1995-EP1113 | 19950324 |
| W: CN, JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| WO 9630352 | A1 | 19961003 | WO 1996-EP1285 | 19960322 |
| W: CN, JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 815094 | A1 | 19980107 | EP 1996-908125 | 19960322 |
| R: BE, CH, DE, FR, GB, IT, LI, NL | | | | |
| JP 11504001 | T2 | 19990406 | JP 1996-528909 | 19960322 |
| US 5804097 | A | 19980908 | US 1996-648134 | 19960822 |
| PRIORITY APPLN. INFO.: DE 1993-4332733 19930925 | | | | |
| WO 1994-EP3069 19940914 | | | | |
| WO 1995-EP1113 19950324 | | | | |
| WO 1996-EP1285 19960322 | | | | |
| OTHER SOURCE(S): MARPAT 123:32785 | | | | |
| GI | | | | |



L9 ANSWER 344 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 PAGE 2-A

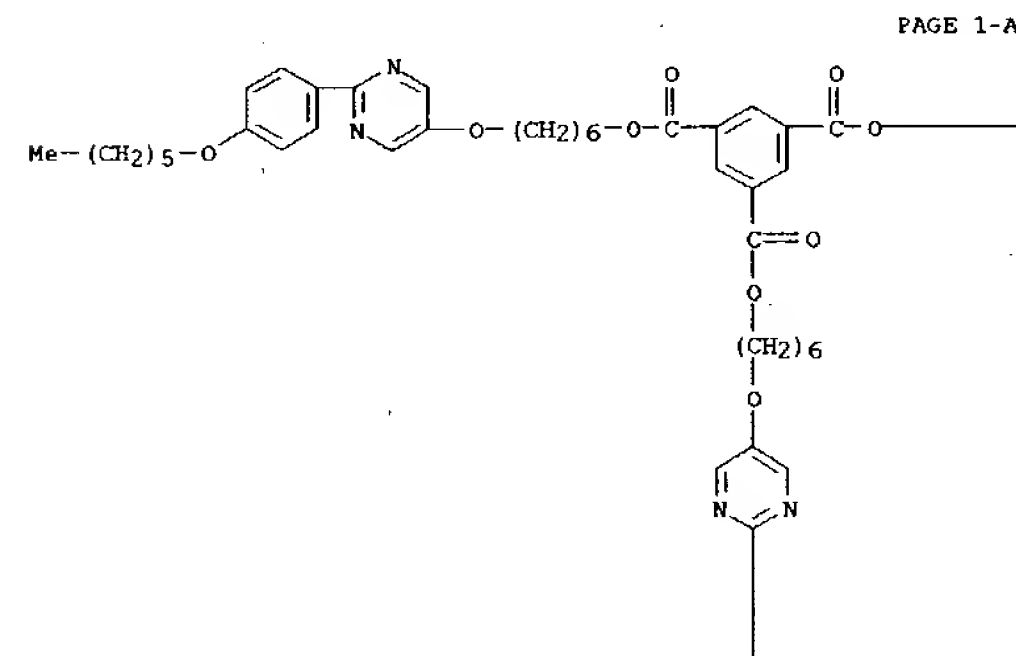


L9 ANSWER 344 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

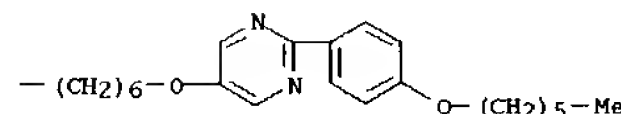
AB The title compds. X(YAYMYB)n [A = divalent spacer group; B = side chain; M = (un)substituted mesogenic group; X = aromatic or aliphatic ring system; Y = direct bond, CO2, O2C, O, CONR; R = H, C1-4 alkyl], having a high liquid viscosity and useful as media in liquid-crystal display devices, are prepared. Thus, I was prepared and demonstrated a crystal phase-nematic phase transition temperature of 93° and a nematic phase-isotropic phase transition temperature of 84°.

IT 164152-91-4P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of carboxyl residue-containing liquid crystal compds.)

RN 164152-91-4 CAPLUS
 CN 1,3,5-Benzenetricarboxylic acid, tris[6-[[[4-(hexyloxy)phenyl]-5-pyrimidinyl]oxy]hexyl] ester (9CI) (CA INDEX NAME)



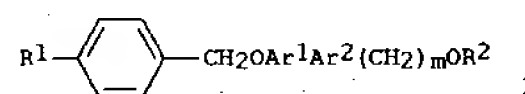
PAGE 1-A



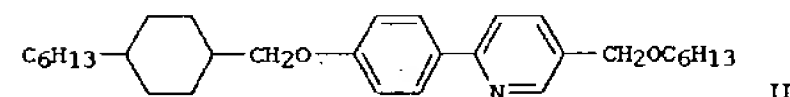
PAGE 1-B

L9 ANSWER 345 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:638243 CAPLUS
 DOCUMENT NUMBER: 123:32959
 TITLE: Preparation of pyridine derivatives as liquid crystals
 INVENTOR(S): Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------|------|----------|-----------------|----------|
| JP 06298735 | A2 | 19941025 | JP 1993-89951 | 19930416 |
| PRIORITY APPLN. INFO.: JP 1993-89951 19930416 | | | | |
| OTHER SOURCE(S): MARPAT 123:32959 | | | | |
| GI | | | | |



I



II

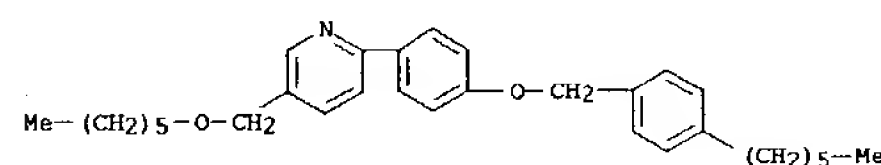
AB The title compds. I [one of Ar1, Ar2 is pyridine-2,5-diyl, the other is 1,4-phenylene; R1, R2 = alkyl; m = 0 or 1] are prepared. During temperature increase, pyridine derivative II (preparation given) undergoes a transition from the crystalline phase to the smectic phase C at 108°.

IT 164145-91-9
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal composition)

RN 164145-91-9 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with 5-[(hexyloxy)methyl]-2-[4-[(4-hexylphenyl)methoxy]phenyl]pyridine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine and 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 164145-88-4
 CMF C31 H41 N O2

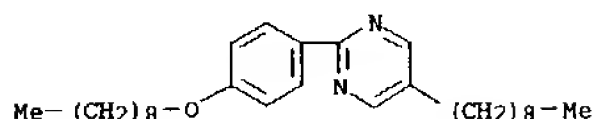


9/811, 359

09/ 835, 523

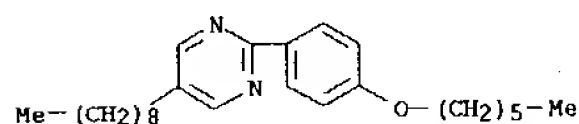
L9 ANSWER 345 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 2

CRN 99895-85-9
CMF C28 H44 N2 O



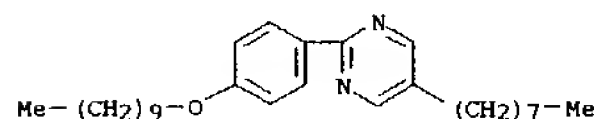
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CRN 57202-56-9
CMF C25 H38 N2 O



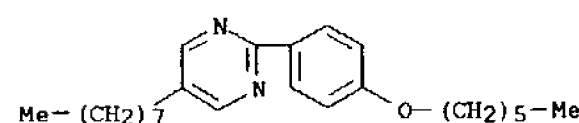
CM 4

CRN 57202-52-5
CMF C28 H44 N2 O

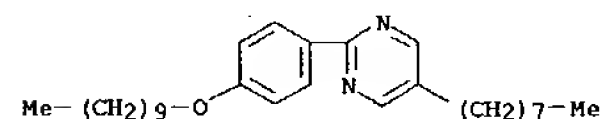


CM 5

CRN 57202-48-9
CMF C24 H36 N2 O

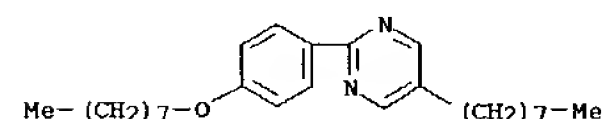


L9 ANSWER 346 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3

CRN 57202-50-3
CMF C26 H40 N2 O



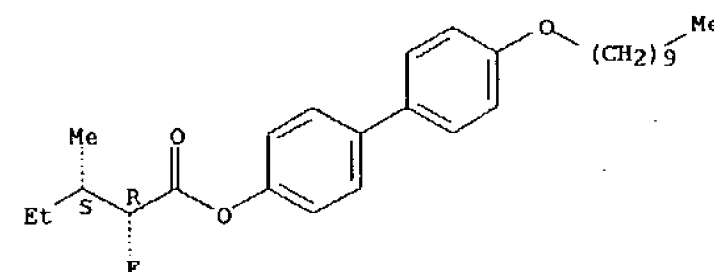
L9 ANSWER 346 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:623561 CAPLUS
DOCUMENT NUMBER: 123:22394
TITLE: Ferroelectric liquid crystal display
INVENTOR(S): Nito, Keiichi; Yasuda, Akio; Takanashi, Hidehiko
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 07092470 | A2 | 19950407 | JP 1993-262950 | 19930927 |
| PRIORITY APPLN. INFO.: | | | JP 1993-262950 | 19930927 |
| AB The liquid crystal display is obtained with the pretilt angle given by the alignment film θ_p satisfying the relation $\theta_p = \delta + \beta$ (δ = layer tilt angle of the liquid crystal; β = 1/2 of cone angle) and $0^\circ < \beta$. Switching is done in an upward rotation of the conical surface of the liquid crystal mol., highly stable memory characteristics are achieved on application of a bias voltage, and high-contrast displays are obtained in multiplex drive. | | | | |
| IT 164106-31-4 | | | | |
| RL: TEM (Technical or engineered material use); USES (Uses) (ferroelec. liquid crystal display from) | | | | |
| RN 164106-31-4 CAPLUS | | | | |
| CN Pentanoic acid, 2-fluoro-3-methyl-, 4'-(decyloxy)[1,1'-biphenyl]-4-yl ester, (R*,S*)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME) | | | | |

CM 1

CRN 164106-30-3
CMF C28 H39 F O3

Relative stereochemistry.

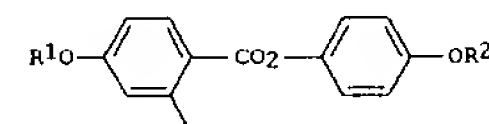


CM 2

CRN 57202-52-5
CMF C28 H44 N2 O

L9 ANSWER 347 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:604529 CAPLUS
DOCUMENT NUMBER: 123:156562
TITLE: Phenyl ester compound, its manufacture, and ferroelectric liquid-crystal mixture containing the compound
INVENTOR(S): Ishizuka, Hidemi; Nishama, Isa; Yokoyama, Akihisa
PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 07089904 | A2 | 19950404 | JP 1993-233272 | 19930920 |
| PRIORITY APPLN. INFO.: | | | JP 1993-233272 | 19930920 |
| OTHER SOURCE(S): | | | MARPAT 123:156562 | |
| GI | | | | |



II

AB The Ph ester is $\text{QOCOCH}_2\text{CHMe}(\text{CH}_2)_2\text{CO}_2\text{Q}$ (I; R1-2 = C1-15 alkyl). I may be optically active $\text{QOCOCH}_2\text{C}^*\text{HMe}(\text{CH}_2)_2\text{CO}_2\text{Q}$ (Q=II). The mixture contains ≥ 1 I. I is manufactured by esterification of 2 equivalent 5-alkyloxy-2-(4-alkyloxyphenoxycarbonyl)phenol QOH and 1 equivalent $\text{XOC}(\text{CH}_2)_2\text{CHMeCH}_2\text{COX}$ (X = OH, halo). The compound is useful to control cholesteric pitches of ferroelec. liquid-crystal mixts. for electrooptical elements.

IT 166522-78-7

RL: TEM (Technical or engineered material use); USES (Uses) (ferroelec. liquid-crystal mixture containing optically active Ph ester)

RN 166522-78-7 CAPLUS

CN Hexanedioic acid, 3-methyl-, bis[5-(octyloxy)-2-[[4-(octyloxy)phenoxy]carbonyl]phenyl] ester, (R)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine and 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 165686-74-8
CMF C65 H92 O12

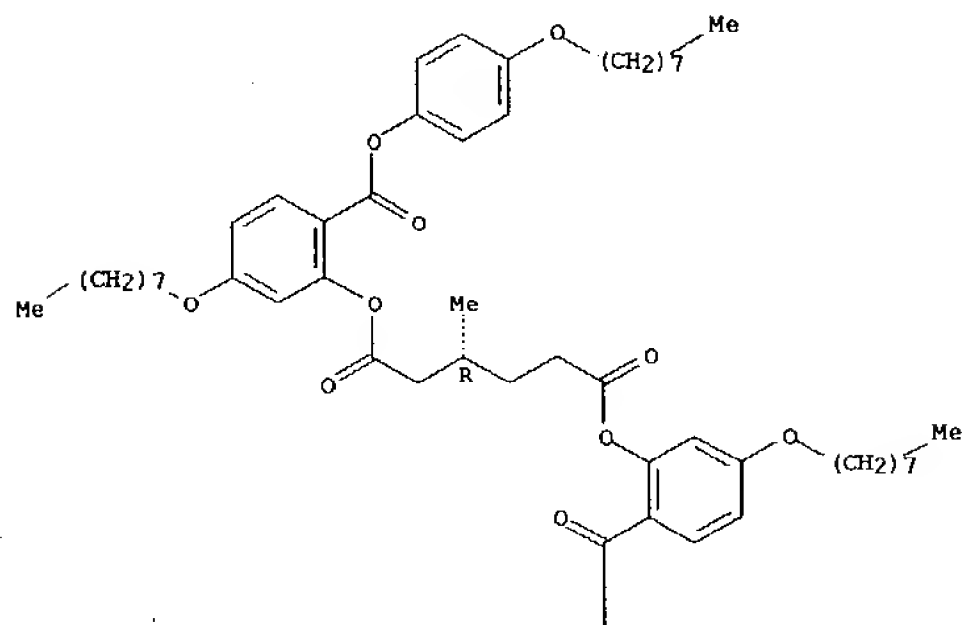
Absolute stereochemistry.

9/811,359

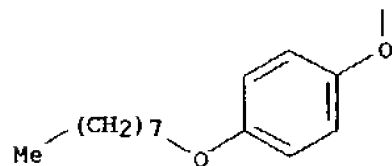
09/ 835,523

L9 ANSWER 347 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A

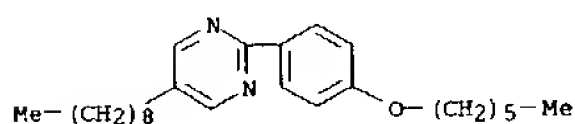


PAGE 2-A



CM 2

CRN 57202-56-9
CMF C25 H38 N2 O

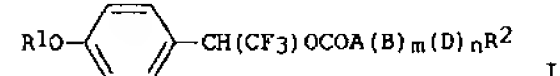


CM 3

CRN 57202-52-5

L9 ANSWER 348 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:578520 CAPLUS
DOCUMENT NUMBER: 122:326679
TITLE: Liquid crystal composition
INVENTOR(S): Nohira, Hiroyuki; Mizuguchi, Hiroshi; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon KK, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06329594 | A2 | 19941129 | JP 1993-118515 | 19930520 |
| PRIORITY APPLN. INFO.: | | | JP 1993-118515 | 19930520 |



AB A liquid crystal composition for an electrooptical display device showing improved response speed comprises an optically active compound represented by the formula I (R1 = C1-18 alkyl; R2 = C1-18 alkyl in which 1 or 2 of nonadjacent methylene groups may be substituted by O, CO2, OCO, CH=CH, or CH2=CH and the H atoms may be substituted by F atoms; A, B = 1,4-phenylene which may have 1 or 2 F, Cl, Br, CH3, or CF3, 1,4-cyclohexylene, pyrimidine-2,5-diyl, or 2,6-naphthylene; m, n = 0 or 1; * = optically active C atom).

IT 163425-28-3

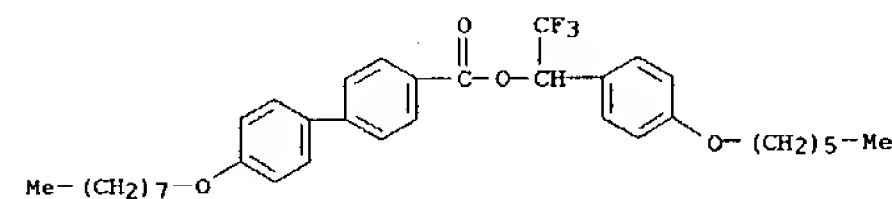
RI: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition for display device)

RN 163425-28-3 CAPLUS

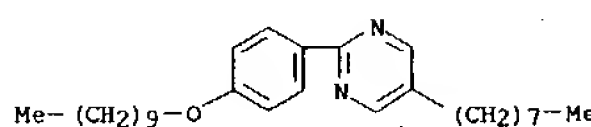
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 2,2,2-trifluoro-1-[4-(hexyloxy)phenyl]ethyl ester, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and trans-4-(5-nonyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 163425-25-0
CMF C35 H43 F3 O4

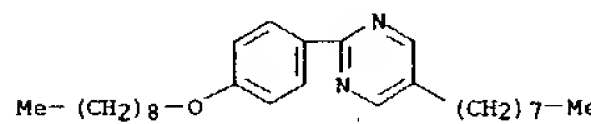


L9 ANSWER 347 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C28 H44 N2 O



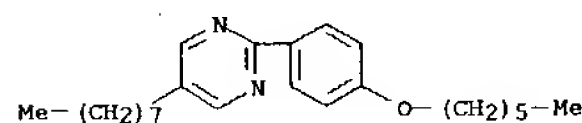
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CRN 57202-51-4
CMF C27 H42 N2 O



CM 5

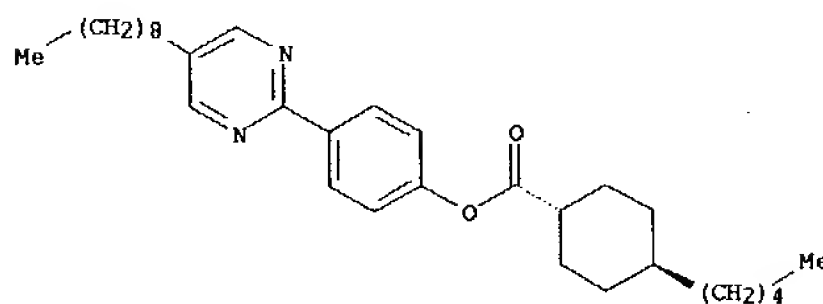
CRN 57202-48-9
CMF C24 H36 N2 O



L9 ANSWER 348 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 2

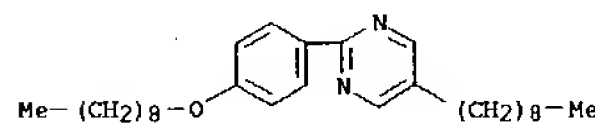
CRN 160189-32-2
CMF C31 H46 N2 O2

Relative stereochemistry.



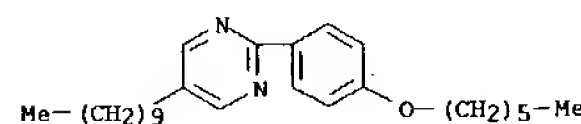
CM 3

CRN 99895-85-9
CMF C28 H44 N2 O



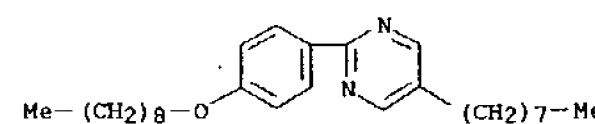
CM 4

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CMF C26 H40 N2 O



CM 5

CRN 57202-51-4
CMF C27 H42 N2 O



9/811, 359

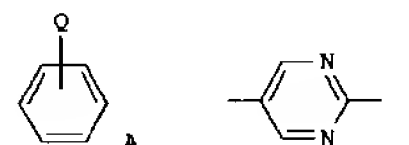
09/ 835, 523

L9 ANSWER 348 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 349 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:576985 CAPLUS
 DOCUMENT NUMBER: 123:98128
 TITLE: Phenyl benzoate derivative optically active compound, liquid-crystal composition containing it, and phenolic derivative intermediate
 INVENTOR(S): Kobayashi, Shogo; Ishibashi, Shigeki; Horie, Toshio; Tsuru, Shinji; Nakamura, Kozaburo; Maruno, Tooru
 PATENT ASSIGNEE(S): Nippon Telegraph & Telephone, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| JP 07069990 | A2 | 19950314 | JP 1994-136138 | 19940617 |
| JP 07121892 | B4 | 19951225 | | |
| PRIORITY APPLN. INFO.: | | | JP 1994-136138 | 19940617 |
| OTHER SOURCE(S): | | | MARPAT 123:98128 | |

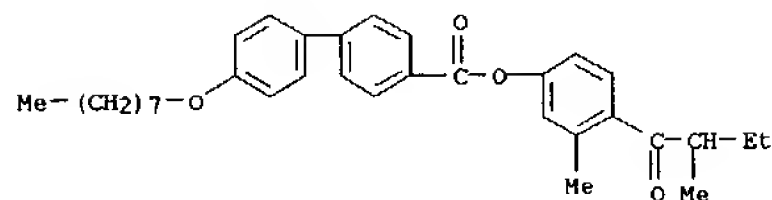
GI



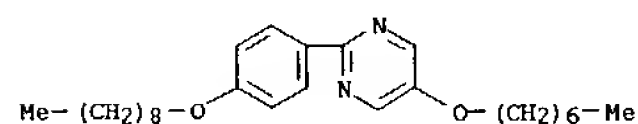
AB The compound is a Ph benzoate derivative I [W = R1XC02; R1 = C4-22 alkyl, C4-22 alkoxy; X = 1,4-C6H4, A, (1,4-C6H4)2, A-1,4-C6H4, 1,4-C6H4-1,4-C6H8, A-1,4-C6H8, B-1,4-C6H4; Q = halo, NO2, OH; Y = halo, Me, NO2; Z = Me, halo, CF3; R2 = C5-10 alkyl, alkoxy, aryl, aralkyl; C* = optically active C; m = 0, 1; n = 0-6]. The composition contains ≥1 I. The intermediate for the optically active compound is I (W = OH). The compound showed large self polarization and the composition showed high response to be useful for optical display devices.

IT 165538-96-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Ph benzoate derivative optically active compound and ferroelec. liquid-crystal composition containing it and its intermediate)
 RN 165538-96-5 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 3-methyl-4-(2-methyl-1-oxobutyl)phenyl ester, mixt. with 5-(heptyloxy)-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-(octyloxy)pyrimidine and 5-(octyloxy)-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 123020-69-9
 CMF C33 H40 O4

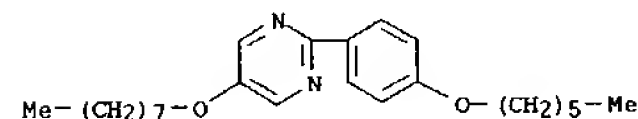
L9 ANSWER 349 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



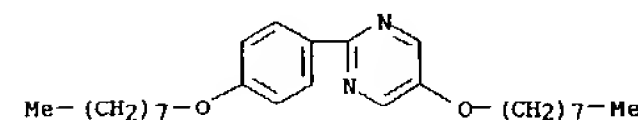
CM 2
 CRN 121554-50-5
 CMF C26 H40 N2 O2



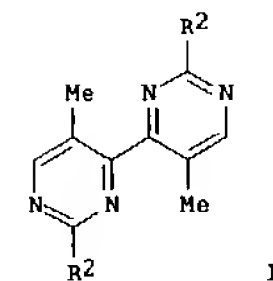
CM 3
 CRN 120091-49-8
 CMF C24 H36 N2 O2



CM 4
 CRN 114767-84-9
 CMF C26 H40 N2 O2

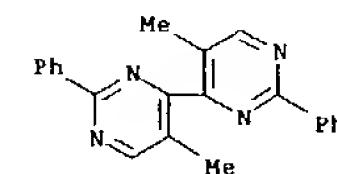


L9 ANSWER 350 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:548867 CAPLUS
 DOCUMENT NUMBER: 123:111985
 TITLE: Enol ethers. XXI. Synthesis of 5,5'-disubstituted 4,4'-bipyrimidines
 AUTHOR(S): Effenberger, Franz; Barthelmess, Ingrid
 CORPORATE SOURCE: Institut Organische Chemie, Universitaet Stuttgart, Stuttgart, D-70569, Germany
 SOURCE: Journal of Heterocyclic Chemistry (1995), 32(2), 599-602
 CODEN: JHTCAD; ISSN: 0022-152X
 PUBLISHER: HeteroCorporation
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 123:111985
 GI



AB 1,6-Dialkyl-3,4-diones ROCH:CR1COCOCR1:CHOR [R = Et, R1 = Me; RR1 = (CH2)2, (CH2)3] are easily accessible by acylation of enol ethers with oxalyl chloride and subsequent elimination of hydrogen chloride using triethylamine. The open-chain 2,5-di-Me derivative ROCH:CR1COCOCR1:CHOR (R = Et, R1 = Me) is converted with amidines and S-methylisothiourea, resp., to give 2,2'-disubstituted 5,5'-dimethyl-4,4'-bipyrimidines I (R2 = H, Me, Ph, MeS). The dihydrofuran and dihydropyran derivs. ROCH:CR1COCOCR1:CHOR [RR1 = (CH2)2, (CH2)3], however, react with benzamidine in DMF only in the presence of calcium hydride as condensation agent yielding 5,5'-bis(2-hydroxyethyl)- and 5,5'-bis(3-hydroxypropyl)-2,2'-diphenyl-4,4'-bipyrimidine.

IT 165615-58-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of disubstituted bipyrimidines)
 RN 165615-58-7 CAPLUS
 CN 4,4'-Bipyrimidine, 5,5'-dimethyl-2,2'-diphenyl- (9CI) (CA INDEX NAME)

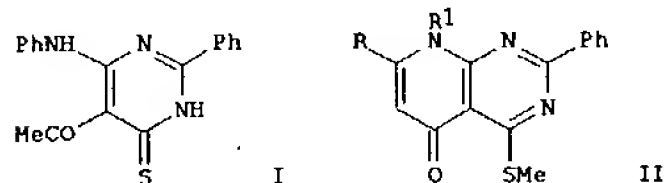


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9/811, 359

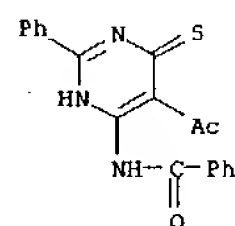
L9 ANSWER 351 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:542200 CAPLUS
 DOCUMENT NUMBER: 123:83308
 TITLE: Synthesis of functionalized pyrimidine-4-thiones and pyrido[2,3-d]pyrimidin-5-one derivatives from amins of monoacylketenes
 AUTHOR(S): Dorokhov, V. A.; Komkov, A. V.; Shashkova, E. M.; Bogdanov, V. S.; Bochkareva, M. N.
 CORPORATE SOURCE: N. D. Zelinsky Inst. Org. Chem., Russian Acad. Sci., Moscow, 117913, Russia
 SOURCE: Izvestiya Akademii Nauk, Seriya Khimicheskaya (1993), (11), 1932-7
 CODEN: IASKEA
 PUBLISHER: Institut Organicheskoi Khimii im. N. D. Zelinskogo Rossiiskoi Akademii Nauk
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI

L9 ANSWER 351 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



AB Monoacylketene amins containing an unsubstituted NH₂ group react with benzoyl isothiocyanate as C-nucleophiles yielding the corresponding thioamides, which are cyclized by sodium methoxide in methanol to 6-amino-5-acetyl-2-phenyl-4(3H)-pyrimidinethiones, e.g., I.. Reaction of the thiones with DMF di-Me acetal leads to 4-(methylthio)pyrido[2,3-d]pyrimidin-5(8H)-ones, e.g., II (R = H, R₁ = Ph). Cyclization of 5-acetyl-6-benzamido-4-(methylthio)-2-phenylpyrimidine by sodium methoxide yields II (R = Ph, R₁ = H).

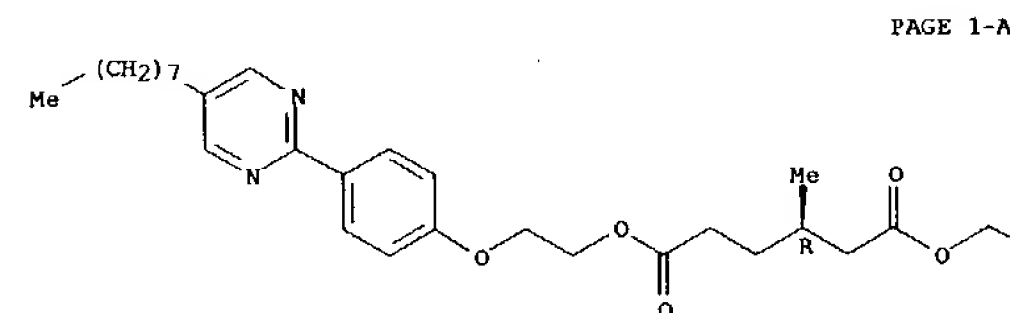
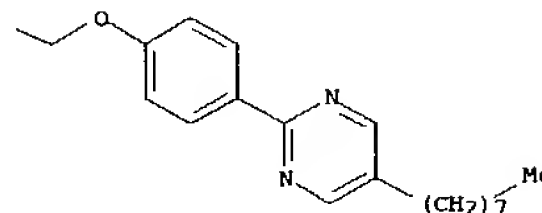
IT 165401-52-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (functionalized pyrimidinethiones and pyridopyrimidinones from acylketene amins)
 RN 165401-52-5 CAPLUS
 CN Benzamide, N-(5-acetyl-1,6-dihydro-2-phenyl-6-thioxo-4-pyrimidinyl)- (9CI) (CA INDEX NAME)



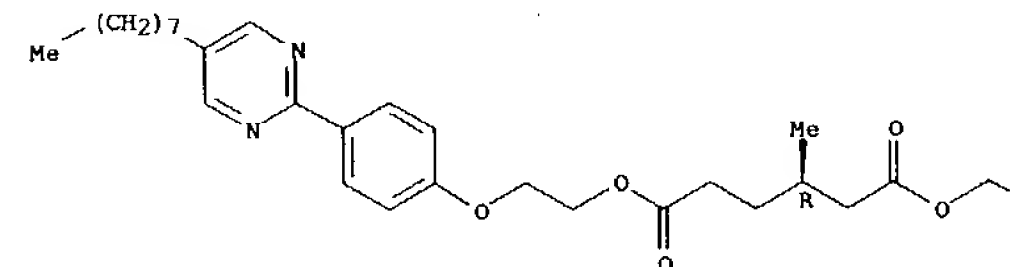
L9 ANSWER 352 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:540184 CAPLUS
 DOCUMENT NUMBER: 123:98658
 TITLE: Liquid-crystalline properties of a chiral twin material possessing a remarkably flexible central spacer
 AUTHOR(S): Yoshizawa, Atsushi; Soeda, Yukie; Nishiyama, Isa
 CORPORATE SOURCE: Petroleum Lab., Japan Energy Corporation, Saitama, 335, Japan
 SOURCE: Journal of Materials Chemistry (1995), 5(4), 675-81
 CODEN: JMACEP; ISSN: 0959-9428
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A novel chiral twin mol., (R)-3-methyladipic acid bis(2-[4-(5-octyl-2-pyrimidinyl)phenoxy]ethyl) ester (MAB-8-PYPOE), was prepared and the effect of the spacer structure on the phys. properties studied. The phase-transition behavior and helical twisting power of the mol. were compared with those of an analogous chiral twin mol., (R)-3-methyladipic acid bis(4-(5-octyl-2-pyrimidinyl)phenyl) ester (MAB-8-PYP), which possesses a shorter central spacer. MAB-8-PYPOE shows a monotropic smectic A phase with a low m.p. Pitch measurements revealed that MAB-8-PYPOE induces a weaker helical structure in the cholesteric phase and particularly in the chiral smectic C phase than MAB-8-PYP. In binary mixts. between MAB-8-PYPOE and a smectic host liquid crystal, the transition behavior induced by the twin mol. is dependent on the structure of the host material.
 IT 165279-13-0P, (R)-3-Methyladipic acid bis(2-[4-(5-octyl-2-pyrimidinyl)phenoxy]ethyl) ester
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and liquid crystal properties of)
 RN 165279-13-0 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[2-[4-(5-octyl-2-pyrimidinyl)phenoxy]ethyl] ester, (3R)- (9CI) (CA INDEX NAME)

L9 ANSWER 352 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B



PAGE 1-A



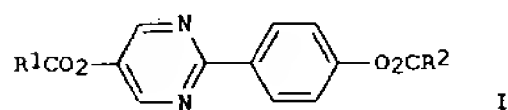
097 835,523

9/811, 357

L9 ANSWER 353 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:532136 CAPLUS
DOCUMENT NUMBER: 122:278290
TITLE: Smectic liquid-crystal mixtures
INVENTOR(S): Hornung, Barbara; Jungbauer, Dietmar; Manero, Javier
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 33 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

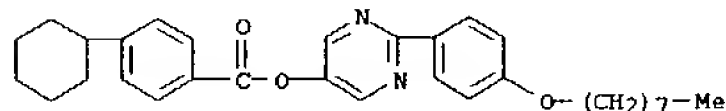
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| DE 4324630 | A1 | 19950126 | DE 1993-4324630 | 19930722 |
| US 5529718 | A | 19960625 | US 1994-278059 | 19940720 |
| JP 07062349 | A2 | 19950307 | JP 1994-171355 | 19940722 |

PRIORITY APPLN. INFO.: DE 1993-4324630 19930722
OTHER SOURCE(S): MARPAT 122:278290
GI



AB The title mixts. comprise ≥ 1 diester from I [R1, R2 = alkyl where ≥ 1 H may substituted with F]; and ≥ 1 compound of the formula
R1(A1)a(M1)b(A2)c(M2)d(A3)e(M3)f(A4)H [alkyl where ≥ 1 CH2 groups may replaced with O, CO, CO2, O2C, OCO2, SiMe2; A1, A2, A3, A4 = 1,4-phenylene where 1 or 2 H are substituted by F or CN, pyridine-2,5-diyl where 1 or 2 H are substituted by F, pyrimidine-2,5-diyl where 1 or 2 H are substituted by F, trans-1,4-cyclohexylene, (1,3,4)-thiadiazole-2,5-diyl, naphthalene-2,6-diyl; M1, M2, M3 = CO2, O2C, CH2O, OCH2, CH2-CH2; a, b, c, d, e, f = 0, 1 provided that a + c + e = 0-3]. The mixture has low m.p. and high SC/SA phase transition temperature

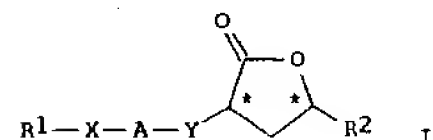
IT 155078-93-6
RL: DEV (Device component use); USES (Uses)
(smectic liquid-crystal mixture with high phase transition temperature)
RN 155078-93-6 CAPLUS
CN Benzoic acid, 4-cyclohexyl-, 2-[4-(octyloxy)phenyl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 355 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:522645 CAPLUS
DOCUMENT NUMBER: 122:278271
TITLE: Optically active substance and liquid-crystal composition
INVENTOR(S): Ikemoto, Tetsuya; Kageyama, Yoshitaka; Terada, Fumiko; Nakaoka, Yuriko; Mori, Kenji
PATENT ASSIGNEE(S): Mitsubishi Rayon Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06256335 | A2 | 19940913 | JP 1991-326185 | 19911210 |

PRIORITY APPLN. INFO.: JP 1991-326185 19911210
GI



AB The title optically active substance has a structural formula I [R1 = C1-18 alkyl, C1-18 alkenyl, alkoxyalkyl; R2 = C1-18 alkyl; X = single bonding; O, CO2, OCO; Y = CO2, CH2O; A = cyclic (unsatd. or saturated) diyl; * indicates asym. C]. Also claimed is a liquid-crystal composition containing the above optically active substance. This optically active substance shows good chemical stability.

IT 162989-71-1
RL: DEV (Device component use); USES (Uses)
(liquid-crystal composition for display device)
RN 162989-71-1 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(decyloxy)-, tetrahydro-2-oxo-5-pentyl-3-furanyl ester, (3S-cis)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 161289-33-4
CMF C32 H44 O5

Absolute stereochemistry.

L9 ANSWER 354 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:522673 CAPLUS
DOCUMENT NUMBER: 122:278273
TITLE: Use of chiral group r-(+)-3-oxyalkyl-cyclopentene for production of polar, liquid-crystal material
INVENTOR(S): Delavier, Paul; Siemensmeyer, Karl; Rohde, Sonja; Vill, Volkmar; Weber, Nikolaus
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| DE 4316444 | A1 | 19941124 | DE 1993-4316444 | 19930519 |

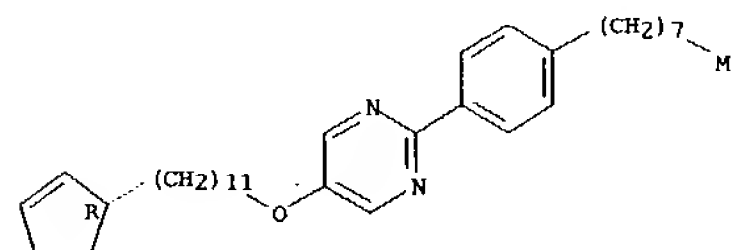
PRIORITY APPLN. INFO.: DE 1993-4316444 19930519
OTHER SOURCE(S): MARPAT 122:278273

AB The optically active chiral polar compds. are r-(+)-3-oxyalkyl-cyclopentenones. The above compds. induce high spontaneous polarization in liquid-crystal devices.

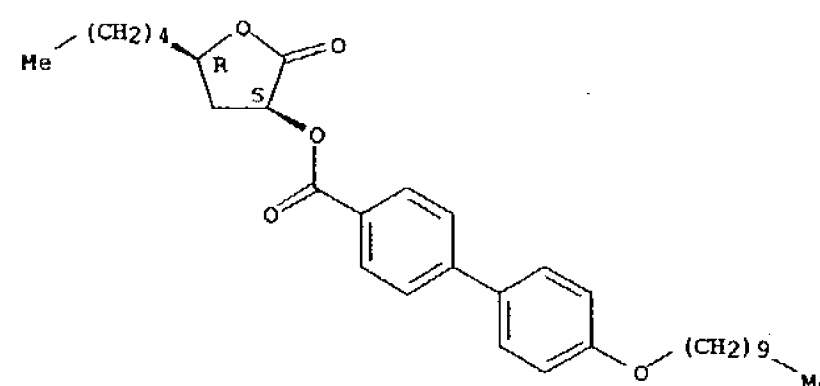
IT 162745-67-7P
RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(optically active chiral polar compound)

RN 162745-67-7 CAPLUS
CN Pyrimidine, 5-[[11-(2-cyclopenten-1-yl)undecyl]oxy]-2-(4-octylphenyl)-, (R)- (9CI) (CA INDEX NAME)

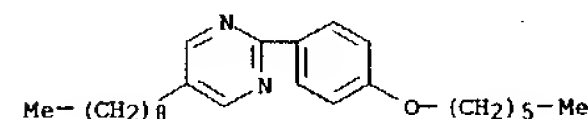
Absolute stereochemistry.



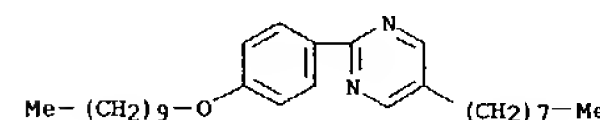
L9 ANSWER 355 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2

CRN 57202-56-9
CMF C25 H38 N2 O

CM 3

CRN 57202-52-5
CMF C28 H44 N2 O

CM 4

CRN 57202-50-3
CMF C26 H40 N2 O

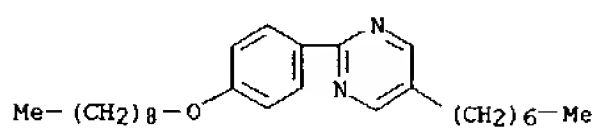
CM 5

CRN 57202-40-1

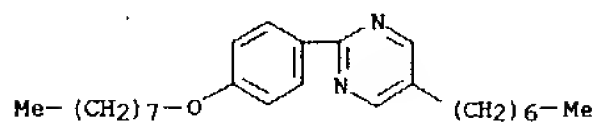
9/811, 359

09/ 835,523

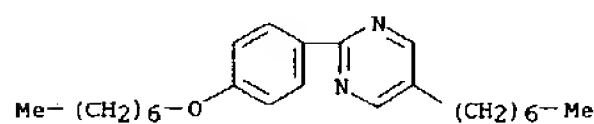
L9 ANSWER 355 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C26 H40 N2 O



CM 6
CRN 57202-39-8
CMF C25 H38 N2 O

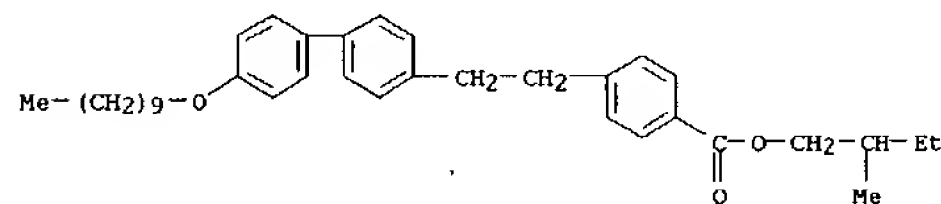


CM 7
CRN 57202-38-7
CMF C24 H36 N2 O

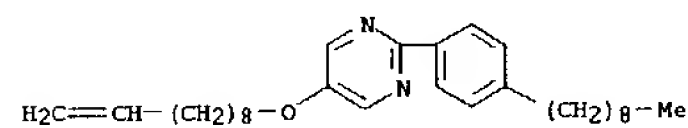


L9 ANSWER 356 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
(ferroelec. liq. crystal compn., for electrooptical display devices)
RN 162577-53-9 CAPLUS
CN 2-Naphthalenecarboxylic acid, 6-[[4-(decyloxy)benzoyl]oxy]-, 2-methylbutyl ester, mixt. with 5-(9-decenyloxy)-2-(4-nonylphenyl)pyrimidine, 2-methylbutyl 4-[2-(4'-(decyloxy)[1,1'-biphenyl]-4-yl)ethyl]benzoate, 2-methylbutyl 4'-[[4-(decyloxy)-3-fluorophenyl]ethynyl][1,1'-biphenyl]-4-carboxylate, 2-methylbutyl 4'-[[4-(decyloxy)phenyl]ethynyl][1,1'-biphenyl]-4-carboxylate, 1-methylheptyl 6-[[4-(dodecyloxy)benzoyl]oxy]-2-naphthalenecarboxylate and 4-[(4-methylhexyl)oxy]phenyl 4-(decyloxy)benzoate (9CI) (CA INDEX NAME)

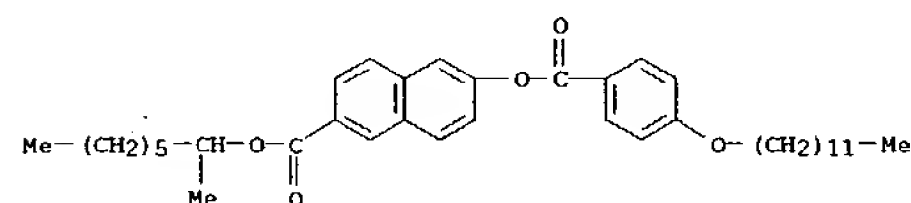
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CMF C36 H48 O3



CM 2
CRN 157784-63-9
CMF C29 H44 N2 O



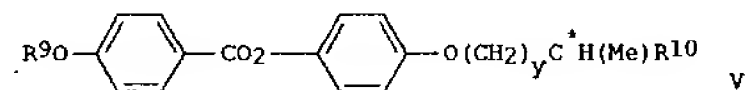
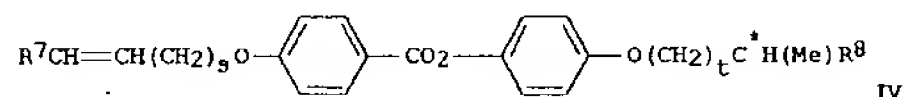
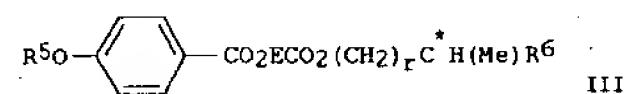
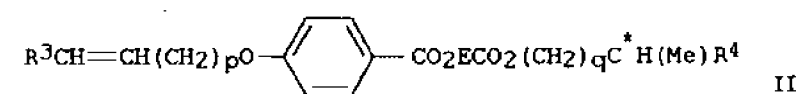
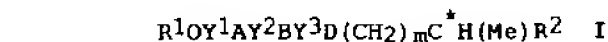
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CRN 119557-76-5
CMF C38 H52 O5



CM 4
CRN 119557-41-4
CMF C33 H42 O5

L9 ANSWER 356 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:513565 CAPLUS
DOCUMENT NUMBER: 122:278264
TITLE: Ferroelectric liquid crystal composition
INVENTOR(S): Yanagi, Tatsuro; Yoshio, Kunikyo; Watanabe, Tetsuya; Sato, Masahiro
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

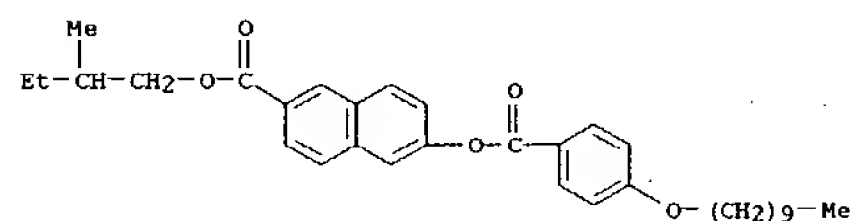
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06240256 | A2 | 19940830 | JP 1993-47550 | 19930212 |
| PRIORITY APPLN. INFO.: | | | JP 1993-47550 | 19930212 |



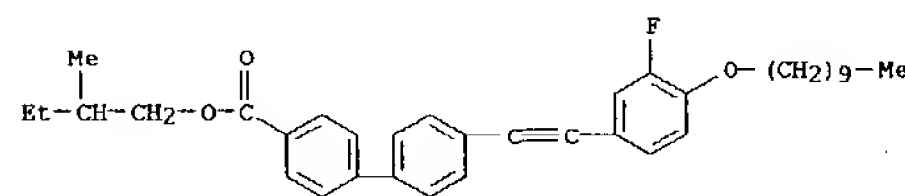
AB A ferroelec. liquid crystal composition showing a chiral smectic C phase and suited for a display device having large operating temperature range and decreased orientation variation comprises a liquid crystal compound having the formula I (R1 = C4-18 alkyl; Y1-3 = 1,4-phenylene substituted with 1-2 F atoms; one of A and B = a triple bond and the other = a single bond, O, OCO, or CO2; D = O, OCO, or CO2; m = an integer of 0-5; C* = an unsym. C atom; R2 = C2-10 alkyl) and optionally ≥ 1 compound selected from the liquid crystal compds. having the formulas II-V (R3, R7 = H or Cl-12; p, s = an integer of 1-12; E = 2,6-naphthylene; C* = an unsym. C atom; q, r = an integer of 0-5; R4, R6, R8, R10 = C2-10 alkyl; R5, R9 = Cl-18 alkyl; t, y = 1-5).

IT 162577-53-9
RL: TEM (Technical or engineered material use); USES (Uses)

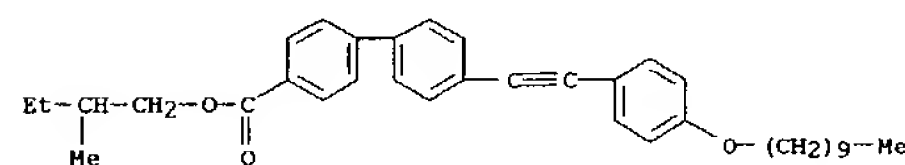
L9 ANSWER 356 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



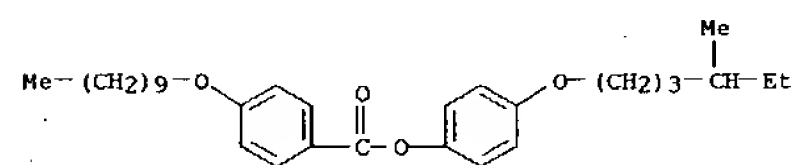
CM 5
CRN 116763-75-8
CMF C36 H43 F O3



CM 6
CRN 115599-26-3
CMF C36 H44 O3



CM 7
CRN 108134-05-0
CMF C30 H44 O4



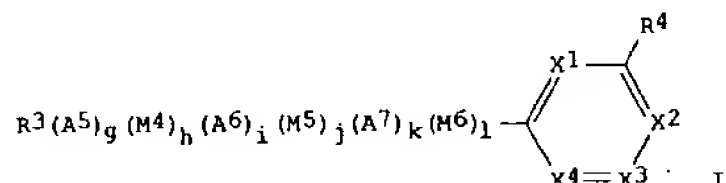
9/811, 359

09/835,523

L9 ANSWER 357 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:513562 CAPLUS
 DOCUMENT NUMBER: 122:278261
 TITLE: Smectic liquid-crystal mixtures
 INVENTOR(S): Hornung, Barbara; Jungbauer, Dietmar; Manero, Javier
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Eur. Pat. Appl., 41 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

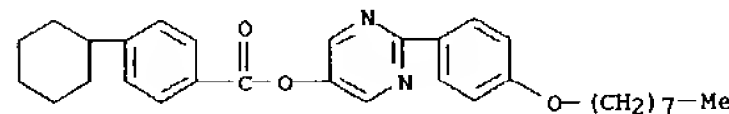
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| EP 620262 | A2 | 19941019 | EP 1994-105020 | 19940330 |
| EP 620262 | A3 | 19941123 | | |
| EP 620262 | B1 | 19970730 | | |
| R: DE, FR, GB | | | | |
| DE 4311968 | A1 | 19941020 | DE 1993-4311968 | 19930410 |
| US 5443752 | A | 19950822 | US 1994-224325 | 19940407 |
| CN 1093733 | A | 19941019 | CN 1994-103935 | 19940409 |
| JP 06330042 | A2 | 19941129 | JP 1994-72245 | 19940411 |
| | | | DE 1993-4311968 | 19930410 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 122:278261
 GI



AB The title mixts. contain: (a) ≥ 1 compound from R10-Z-p-C6H4-OR2 and/or R1-Z-p-C6H4-OR2 [R1, R2 = alkyl where one of the CH2 group is replaced by an CO; Z = pyrazine-2,5-diyl]; (b) compound from R1A1aM1bA2cM2dA3eM3fA4-H [R1 = alkyl where 1-2 nonadjacent CH2 group is replaced by O, CO, COO, OCO, OCOO, or SiMe2; A1-A4 = 1,4-phenylene where 1 or 2 H atoms are replaced by F or CN, pyridine-2,5-diyl in which 1-2 H atoms are replaced by F, pyrimidine-2,5-diyl in which 1-2 H atoms are replaced by F, trans-1,4-cyclohexylene, 1,3,4-thiadiazole-2,5-diyl, naphthalene-2,6-diyl; M1-M3 = CO2, O2C, CH2O, OCH2, C2H4; a, b, c, d, e, f = 0, 1 provided that the sum of a + c + e = 0-2]; (c) ≥ 1 compound from I [R3 = alkyl where 1-2 nonadjacent CH2 group is replaced by O, CO, COO, OCO, OCOO, or SiMe2; A5-A8 = 1,4-phenylene where 1 or 2 H atoms are replaced by F, pyridine-2,5-diyl in which 1-2 H atoms are replaced by F, pyrimidine-2,5-diyl in which 1-2 H atoms are replaced by F, trans-1,4-cyclohexylene in which 1-2 H atoms are replaced by CN and/or Me, 1,3,4-thiadiazole-2,5-diyl; M4-M6 = CO2, O2C, CH2O, OCH2, C2H4; g, h, i, j, k, l = 0, 1 provided that the sum of g + i + k = 0-3; A5 can be replaced by a ring similar to the one found at the end of the chain; X1-X4 = CH, N where the number of N atoms in the ring is 0-2]; (d) compound from

L9 ANSWER 357 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 R1OCO2A1aM1bA2cM2dA3eOfR2; (e) Si compds.; (f) hydroquinone derivs.; (g) a pyridylpyrimidine compd.; and (h) a Ph benzoate compd. Optionally the mixts. may contain an optically active Ph benzoate, an optically active oxirane ether, an optically active oxirane ester, an optically active dioxolane ether, an optically active dioxolane ester, and/or a macrocyclic compd. The mixts. provide improved charging properties in display devices.
 IT 155078-93-6
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (smectic liquid crystal composition with improved charging properties)
 RN 155078-93-6 CAPLUS
 CN Benzoic acid, 4-cyclohexyl-, 2-[4-(octyloxy)phenyl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 358 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:513318 CAPLUS
 DOCUMENT NUMBER: 123:71030
 TITLE: Heterotrimeric liquid crystalline thiadiazole derivatives
 AUTHOR(S): Zab, Kerstin; Joachimi, Detlev; Novotna, Eva; Diele, Siegmund; Tschierske, Carsten
 CORPORATE SOURCE: Dep. Chem., Martin-Luther-Univ., Saale, Weinbergweg, D-06015/16, Germany
 SOURCE: Liquid Crystals (1995), 18(4), 631-7
 CODEN: LICRE6; ISSN: 0267-8292
 PUBLISHER: Taylor & Francis
 DOCUMENT TYPE: Journal
 LANGUAGE: English

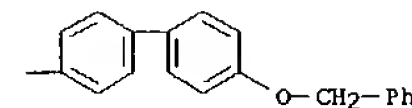
AB Various trimeric cooligomers combining 2-phenyl-1,3,4-thiadiazole mesogenic moieties with a biphenyl mesogenic moiety were synthesized and their mesomorphic behavior studied by polarizing microscopy, calorimetry and x-ray scattering. Such cooligomeric structures provide an opportunity to combine different mesogenic units. Thus readily accessible homochiral biphenyl mesogenic units were connected with thiadiazole mesogenic units leading to an oligomeric liquid crystal material with ferroelec. properties.

IT 164667-82-7P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and ferroelec. and liquid crystal properties of)

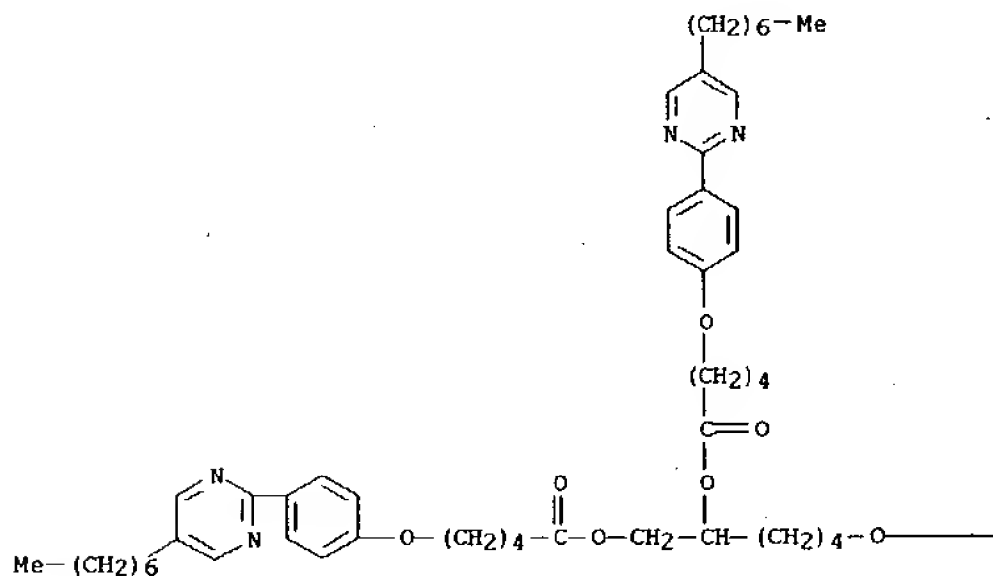
RN 164667-82-7 CAPLUS
 CN Pentanoic acid, 5-[4-(5-heptyl-2-pyrimidinyl)phenoxy]-, 1-[4-[[4'-(phenylmethoxy)[1,1'-biphenyl]-4-yl]oxy]butyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

L9 ANSWER 358 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B



PAGE 1-A



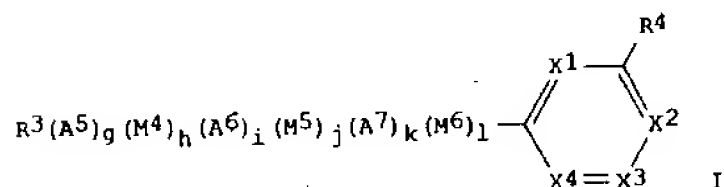
09/835,523

9/811,359

L9 ANSWER 359 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:511432 CAPLUS
DOCUMENT NUMBER: 122:278260
TITLE: Smectic liquid-crystal mixtures
INVENTOR(S): Hornung, Barbara; Jungbauer, Dietmar; Manero, Javier
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 27 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| DE 4311967 | A1 | 19941013 | DE 1993-4311967 | 19930410 |
| EP 620263 | A2 | 19941019 | EP 1994-105022 | 19940330 |
| EP 620263 | A3 | 19941123 | | |
| EP 620263 | B1 | 19970903 | | |
| R: DE, FR, GB | | | | |
| US 5441668 | A | 19950815 | US 1994-224145 | 19940407 |
| CN 1093732 | A | 19941019 | CN 1994-103932 | 19940409 |
| JP 06306363 | A2 | 19941101 | JP 1994-72259 | 19940411 |

PRIORITY APPLN. INFO.: DE 1993-4311967 19930410
OTHER SOURCE(S): MARPAT 122:278260
GI

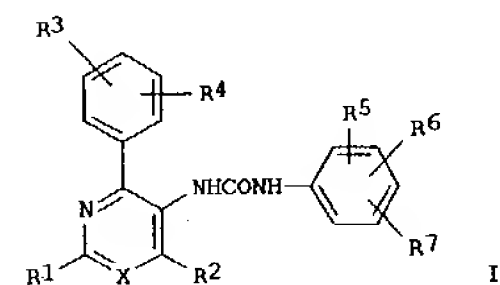


AB The title mixts. contain: (a) ≥ 1 compound from R10-Z-p-C6H4-OR2 and/or R1-Z-p-C6H4-OR2 [R1, R2 = alkyl where one of the CH2 group is replaced by an CO; Z = pyrazine-2,5-diyl]; (b) ≥ 1 compound from R1A1aM1bA2cM2dA3eM3fA4-H [R1 = alkyl where 1-2 nonadjacent CH2 group is replaced by O, CO, COO, OCO, OCOO, or SiMe2; A1-A4 = 1,4-phenylene where 1 or 2 H atoms are replaced by F or CN, pyridine-2,5-diyl in which 1-2 H atoms are replaced by F, pyrimidine-2,5-diyl in which 1-2 H atoms are replaced by F, trans-1,4-cyclohexylene, 1,3,4-thiadiazole-2,5-diyl, naphthalene-2,6-diyl; M1-M3 = CO2, O2C, CH2O, OCH2, C2H4; a, b, c, d, e, f = 0, 1 provided that the sum of a + c + e = 0-2]; and (c) ≥ 1 compound from I [R3 = alkyl where 1-2 nonadjacent CH2 group is replaced by O, CO, COO, OCO, OCOO, or SiMe2; A5-A8 = 1,4-phenylene where 1 or 2 H atoms are replaced by F, pyridine-2,5-diyl in which 1-2 H atoms are replaced by F, pyrimidine-2,5-diyl in which 1-2 H atoms are replaced by F, trans-1,4-cyclohexylene in which 1-2 H atoms are replaced by CN and/or Me, 1,3,4-thiadiazole-2,5-diyl; M4-M6 = CO2, O2C, CH2O, OCH2, C2H4; g, h, i, j, k, l = 0, 1 provided that the sum of g + i + k = 0-3; A5 can be replaced by a ring similar to the one found at the end of the chain; X1-X4 = CH, N where the number of N atoms in the ring is 0-2]. Optionally the

L9 ANSWER 360 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:508024 CAPLUS
DOCUMENT NUMBER: 122:265394
TITLE: N-phenylpyri(mi)dine-N'-phenylurea derivatives, their preparation and their use as ACAT inhibitors.
INVENTOR(S): Nagamine, Masashi; Yamamoto, Kenji; Horiuchi, Kenji; Matsui, Yoshimitsu; Yoshida, Masanori
PATENT ASSIGNEE(S): Nihon Nohyaku Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 29 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------|------|----------|-----------------|----------|
| EP 638557 | A1 | 19950215 | EP 1994-111555 | 19940725 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE | | | | |
| CA 2128917 | AA | 19950214 | CA 1994-2128917 | 19940727 |
| AU 9468817 | A1 | 19950223 | AU 1994-68817 | 19940729 |
| CN 1109052 | A | 19950927 | CN 1994-109419 | 19940812 |
| US 5500424 | A | 19960319 | US 1994-288699 | 19940812 |
| JP 07101940 | A2 | 19950418 | JP 1994-211825 | 19940813 |

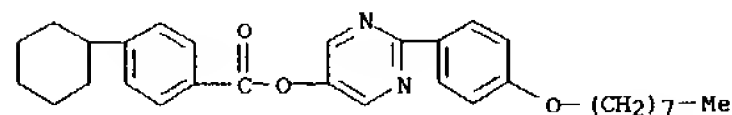
PRIORITY APPLN. INFO.: JP 1993-222085 19930813
OTHER SOURCE(S): MARPAT 122:265394
GI



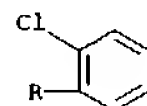
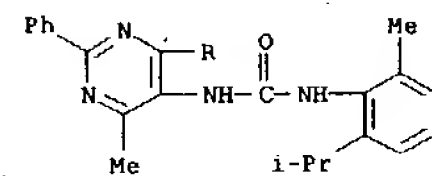
AB Title compds. I (R1 = alkyl, cycloalkyl, alkoxy, (substituted)cycloamino, (substituted)Ph; R2 = H, alkyl; R3, R4 = H, halo, alkyl, haloalkyl, alkoxy, alkylthio; R5, R6, R7 = H, halo, alkyl, haloalkyl, alkoxy, alkylthio, dialkylamino; X = N, CH) or a pharmacol. acceptable salt thereof, useful as inhibitors of acyl-CoA:cholesterol O-acetyltransferase (ACAT), are prepared To 4-(2-chlorophenyl)-6-methyl-2-phenyl-5-pyrimidinecarboxylic acid (preparation given) and diphenylphosphoryl azide in benzene was added Et3N followed by 2-isopropyl-6-methylaniline to give I (R1 = Ph, R2 = Me, R3 = 2-Cl, R4 = R7 = H, R5 = 2-Me2CH, R6 = 6-Me, X = N). ACAT inhibition was demonstrated. Pharmaceutical formulations comprising I are given.

IT 162508-44-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of phenylpyri(mi)dinephenylurea derivs. as ACAT inhibitors)
RN 162508-44-3 CAPLUS
CN Urea, N-[4-(2-chlorophenyl)-6-methyl-2-phenyl-5-pyrimidinyl]-N'-[2-methyl-6-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

L9 ANSWER 359 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
mixts. may contain a Si compd., a hydroquinone deriv., a pyridylpyrimidine compd., a Ph benzoate, an optically active Ph benzoate, an optically active oxirane ether, an optically active oxirane ester, an optically active dioxolane ether, an optically active dioxolane ester, and/or a macrocyclic compd. The mixts. provide improved charging properties in display devices.
IT 155078-93-6
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(smectic liquid crystal composition with improved charging properties)
RN 155078-93-6 CAPLUS
CN Benzoic acid, 4-cyclohexyl-, 2-[4-(octyloxy)phenyl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)



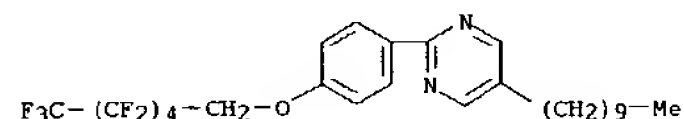
L9 ANSWER 360 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



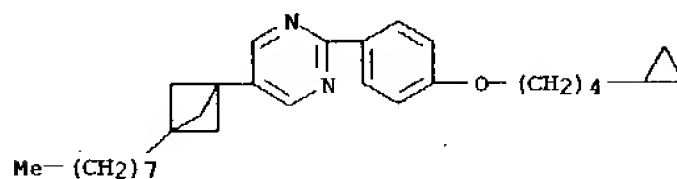
9/811, 359

09/835,523

L9 ANSWER 361 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:503707 CAPLUS
 DOCUMENT NUMBER: 122:327168
 TITLE: Layer-by-layer transitions in liquid crystals
 AUTHOR(S): Stoebe, T.; Jin, A. J.; Mach, P.; Huang, C. C.
 CORPORATE SOURCE: Sch. Phys. Astronomy, Univ. Minnesota, Minneapolis, MN, 55455, USA
 SOURCE: International Journal of Thermophysics (1995), 16(1), 33-43
 CODEN: IJTHDY; ISSN: 0195-928X
 PUBLISHER: Plenum
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Employing the free-standing film calorimetric system, the authors have identified three remarkable layer-by-layer transitions in several liquid-crystal compds. Each of these transitions can be well described by the simple power-law form: $L = L_0 t^{-\nu}$. The layering transitions found near the smectic-A-hexatic-B and smectic-A-crystal-B transitions are well characterized by the exponent $\nu = 1/3$. This value is consistent with models based on a van der Waals-like dominant intermol. interaction. Another novel layer-by-layer thinning transition was discovered above the bulk smectic-A-isotropic transition of a perfluorinated liquid-crystal compound. The value of the exponent obtained, $\nu = 3/4$, cannot be easily explained using familiar models.
 IT 159680-03-2
 RL: PEP (Physical, engineering or chemical process); PROC (Process) (layer-by-layer transitions in liquid crystals of)
 RN 159680-03-2 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,6-undecafluorohexyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



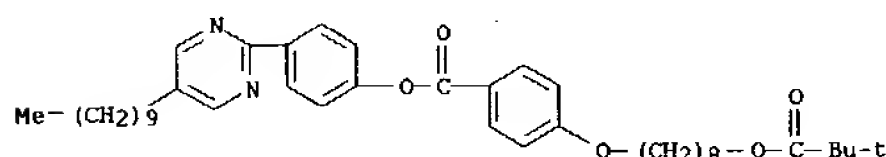
L9 ANSWER 362 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:503660 CAPLUS
 DOCUMENT NUMBER: 123:22750
 TITLE: Liquid crystalline bicyclo[1.1.1]pentane derivatives
 AUTHOR(S): De Meijere, A.; Messner, M.
 CORPORATE SOURCE: Institut Organische Chemie, Georg-August-Universitaet Goettingen, Goettingen, D-37077, Germany
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1994), 257, 161-7
 CODEN: MCLCE9; ISSN: 1058-725X
 PUBLISHER: Gordon & Breach
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New liquid crystalline bicyclo[1.1.1]pentane derivs. were prepared. Nematic and smectic A, B and C phases were observed. When the bicyclo[1.1.1]pentyl unit is incorporated in a terminal alkyl chain, it acts as a chain stiffener without changing the transition temperature significantly. A bicyclo[1.1.1]pentyl unit placed at the end of the mesogenic moiety acts almost like a ring; the liquid crystal transition temps. are increased significantly compared to analogous compds. without the bicyclo[1.1.1]pentyl unit. A bicyclo[1.1.1]pentyl unit in the center of the mesogenic moiety only gives rise to low clearing points.
 IT 163777-52-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and liquid crystal properties of)
 RN 163777-52-4 CAPLUS
 CN Pyrimidine, 2-[4-(4-cyclopropylbutoxy)phenyl]-5-(3-octylbicyclo[1.1.1]pent-1-yl)- (9CI) (CA INDEX NAME)



L9 ANSWER 363 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:501261 CAPLUS
 DOCUMENT NUMBER: 122:252246
 TITLE: Manufacture of liquid crystal display with high yield and low cost
 INVENTOR(S): Hacha, Satoshi; Endo, Hiroyuki; Ono, Katsuhiko
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06301001 | A2 | 19941028 | JP 1993-112334 | 19930415 |
| PRIORITY APPLN. INFO.: | | | JP 1993-112334 | 19930415 |

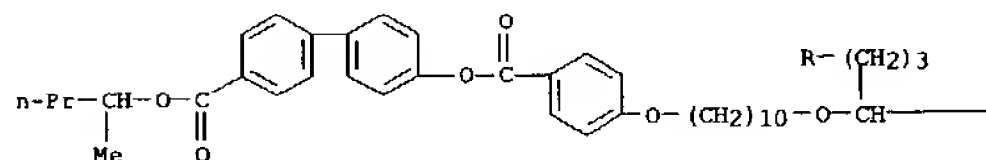
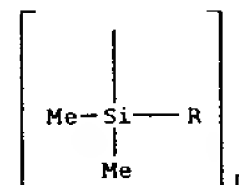
 AB In manufacturing a liquid crystal display having a pair of substrates 1 of which is an electrode-bearing plastic one and the other of which is an active matrix one, a ferroelec. polymeric liquid crystal or its composition and a plastic film are laminated on the electrode-bearing plastic substrate and the other substrate is laminated after the liquid crystal is oriented.
 IT 162399-83-9
 RL: DEV (Device component use); USES (Uses) (liquid crystal for manufacturing liquid crystal display)
 RN 162399-83-9 CAPLUS
 CN Benzoic acid, 4-[[8-(2,2-dimethyl-1-oxopropoxy)octyl]oxy]-, 4-(5-decyl-2-pyrimidinyl)phenyl ester, mixt. with 8-(4-(5-decyl-2-pyrimidinyl)phenoxy)octyl 3-methylbutanoate and poly[oxy(dimethylsilylene)[4-[[10-[4-[[[4'-(1-methylbutoxy)carbonyl][1,1'-biphenyl]-4-yl]oxy]carbonyl]phenoxy]decyl]oxy]-1,7-heptanediyl](dimethylsilylene)] (9CI) (CA INDEX NAME)
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 CRN 162399-82-8
 CMF C40 H56 N2 O5



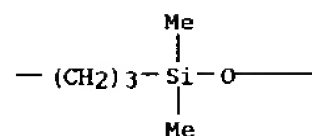
CM 2
 CRN 155387-62-5
 CMF (C46 H68 O7 S12)n
 CCI PMS

L9 ANSWER 363 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

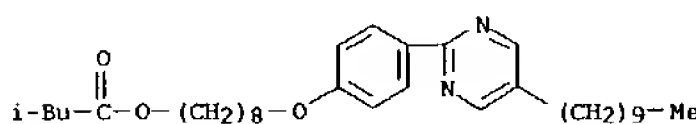
PAGE 1-A



PAGE 1-B



CM 3
 CRN 155167-16-1
 CMF C33 H52 N2 O3



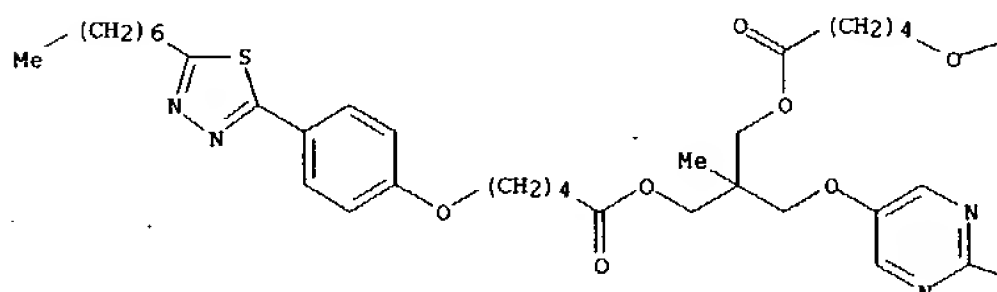
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9/811, 359

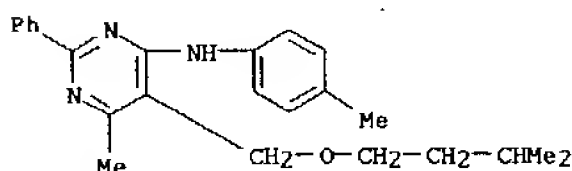
L9 ANSWER 364 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:489324 CAPLUS
 DOCUMENT NUMBER: 123:22735
 TITLE: Trimeric and tetrameric liquid crystalline thiadiazole derivatives
 AUTHOR(S): Zab, K.; Joachimi, D.; Agert, O.; Neumann, B.; Tschierske, C.
 CORPORATE SOURCE: Inst. Org. Chem., Martin-Luther-Univ. Halle-Wittenberg, Halle/Saale, D-06015, Germany
 SOURCE: Liquid Crystals (1995), 18(3), 489-94
 CODEN: LICRE6; ISSN: 0267-8292
 PUBLISHER: Taylor & Francis
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Novel liquid crystalline 2-phenyl-1,3,4-thiadiazole based oligomers with three and four rigid aromatic units linked by a flexible central unit were studied by polarizing microscopy. The synthesis of these compds. and the influence of structural variations on the mesomorphic properties are described. The combination of suitable mesogenic moieties with appropriate central units leads to oligomers which exhibit SC phases.
 IT 164074-96-8P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation and liquid crystals properties of)
 RN 164074-96-8 CAPLUS
 CN Pentanoic acid, 5-[4-(5-heptyl-1,3,4-thiadiazol-2-yl)phenoxy]-, 2-methyl-2-[[[2-(4-[(4-propylcyclohexyl)methoxy]phenyl)-5-pyrimidinyl]oxy]methyl]-1,3-propanediyl ester, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A

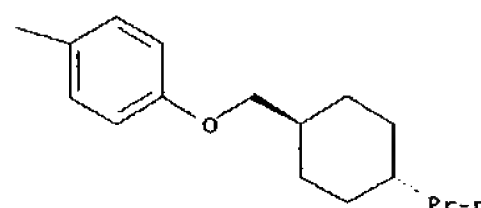
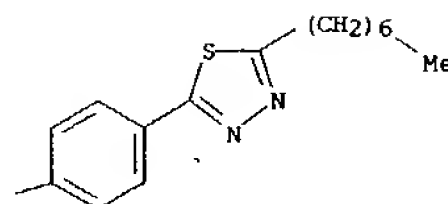


L9 ANSWER 365 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:484203 CAPLUS
 DOCUMENT NUMBER: 123:55795
 TITLE: Synthesis and immunomodulatory activity of 6-methyl-2-phenyl-5-substituted pyrimidines
 AUTHOR(S): Cieplik, Jerzy; Machon, Zdzislaw; Zimecki, Michal; Wieczorek, Zbigniew
 CORPORATE SOURCE: Dep. Org. Chemistry, Medical Academy, Wroclaw, 50-137, Pol.
 SOURCE: Farmaco (1995), 50(2), 131-6
 CODEN: FMCE8
 PUBLISHER: Societa Chimica Italiana
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Various new 4-arylamino-6-methyl-2-phenyl-5-methylamino- and 5-alkoxymethylpyrimidines were synthesized in two chemical series from 4-arylamino-6-methyl-2-phenyl-5-hydroxymethylpyrimidines. Some of these products display immunomodulatory activities comparable to that of levamisole.
 IT 164927-13-3P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation) (synthesis and immunomodulatory activity of substituted pyrimidines)
 RN 164927-13-3 CAPLUS
 CN 4-Pyrimidinamine, 6-methyl-5-[(3-methylbutoxy)methyl]-N-(4-methylphenyl)-2-phenyl- (9CI) (CA INDEX NAME)



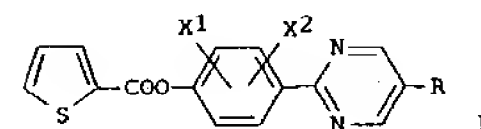
L9 ANSWER 364 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B



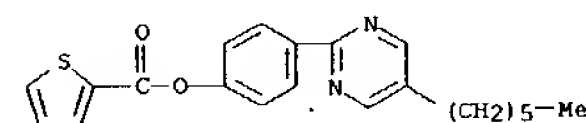
L9 ANSWER 366 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:480284 CAPLUS
 DOCUMENT NUMBER: 122:226983
 TITLE: Liquid crystal compound, liquid crystal composition, liquid crystal device, display method and display apparatus
 INVENTOR(S): Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi; Yamada, Yoko; Nakazawa, Ikuo
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 06298760 | A2 | 19941025 | JP 1993-112357 | 19930416 |
| PRIORITY APPLN. INFO.: | | | JP 1993-112357 | 19930416 |
| OTHER SOURCE(S): | | MARPAT 122:226983 | | |



AB The title compound is I (R = H, C1-18 alkyl; methylene groups in the alkyl may be substituted by O, S, CO, CO2, CH=CH, or CH.tplbond.CH; the alkyl may contain F; X1, X2 = H, F, Cl, Br, Me, CF3, CN). The above composition is used for the title composition, device, display method, and display apparatus. The compound showed fast-responding characteristics.

IT 162134-35-2
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (liquid crystal compound)
 RN 162134-35-2 CAPLUS
 CN 2-Thiophenecarboxylic acid, 4-(5-hexyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



9/811, 359

09/ 835, 523

L9 ANSWER 367 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:478134 CAPLUS
DOCUMENT NUMBER: 122:226958
TITLE: Additives for chiral smectic liquid crystal compositions and their uses
INVENTOR(S): Nohira, Hiroyuki; Sakaigawa, Akira; Yokoi, Sachiko
PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06264058 | A2 | 19940920 | JP 1993-77533 | 19930312 |

PRIORITY APPLN. INFO.: JP 1993-77533 19930312

AB The title novel compound, F(CF₂)_m(CH₂)_n(O)pA(O)qR [m = 1-10; n = 0-10; p = 0, 1; q = 0, 1; p or q is always 1; A = structural unit having an aromatic ring at both chain ends; R = C1-20 alkyl] is claimed. Liquid crystal compns. containing these additives, and devices using these compns. are also claimed.

IT 162082-50-0
RL: TEM (Technical or engineered material use); USES (Uses)
(chiral smectic liquid crystal composition)

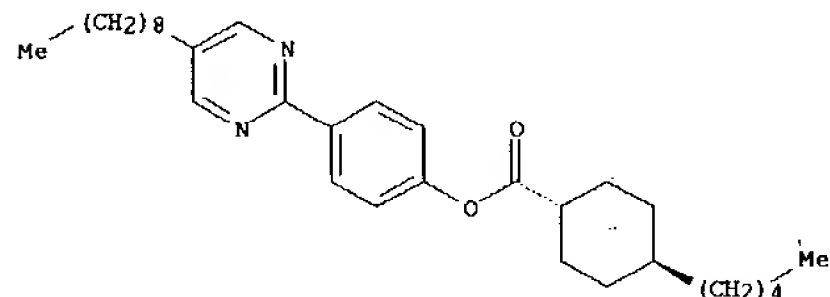
RN 162082-50-0 CAPLUS

CN Cyclohexanecarboxylic acid, 4-pentyl-, 4-(5-nonyl-2-pyrimidinyl)phenyl ester, trans-, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine, 4-[(2-fluorooctyl)oxy]-4'-(heptadecafluorooctyl)-1,1'-biphenyl, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 160189-32-2
CMF C31 H46 N2 O2

Relative stereochemistry.



CM 2

CRN 158917-35-2

L9 ANSWER 368 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:476663 CAPLUS
DOCUMENT NUMBER: 123:212958
TITLE: Synthesis and properties of optically active α-trifluoromethylbenzyl derivatives for ferroelectric liquid crystals
AUTHOR(S): Aoki, Yoshio; Nohira, Hiroyuki
CORPORATE SOURCE: Fac. Eng., Saitama Univ., Shimo-ohkubo, 255, Japan
SOURCE: Liquid Crystals (1995), 18(2), 197-205
CODEN: LICRE6; ISSN: 0267-8292
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English

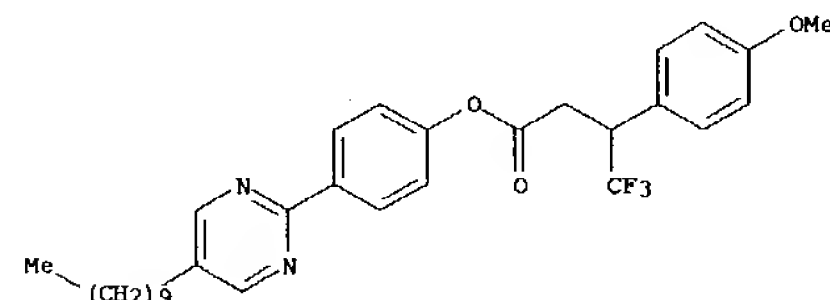
AB As new chiral dopants for ferroelec. liquid crystals (FLCs), some optically active α-trifluoromethylbenzyl derivs. were synthesized, utilizing optically active 3-(4-methoxyphenyl)-4,4,4-trifluorobutanoic acid. The magnitudes of the spontaneous polarizations (P_s) and the response times depended on the core structures and the type of linkage between the optically active and the core blocks. FLC mixts. containing the chiral dopants having an ether bond between the optically active block and the core blocks showed large P_s values compared with those having an ester linkage, while the response times were inversely proportional to the values of P_s.

IT 167703-01-7P
RL: MOA (Modifier or additive use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(synthesis and properties of optically active α-trifluoromethylbenzyl derivs. for ferroelec. liquid crystals)

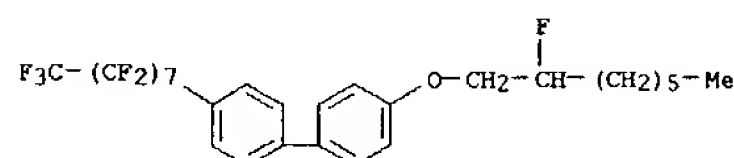
RN 167703-01-7 CAPLUS

CN Benzenepropanoic acid, 4-methoxy-β-(trifluoromethyl)-, 4-(5-decyl-2-pyrimidinyl)phenyl ester, (+)- (9CI) (CA INDEX NAME)

Rotation (+).

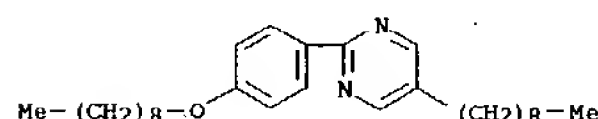


L9 ANSWER 367 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C28 H24 F18 O



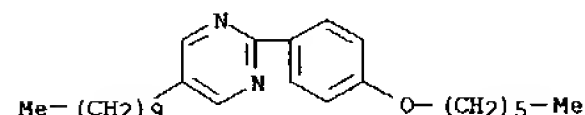
CM 3

CRN 99895-85-9
CMF C28 H44 N2 O



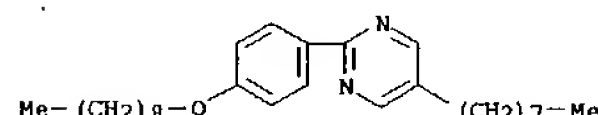
CM 4

CRN 57202-60-5
CMF C26 H40 N2 O



CM 5

CRN 57202-51-4
CMF C27 H42 N2 O



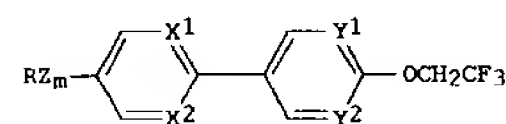
L9 ANSWER 369 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:464475 CAPLUS
DOCUMENT NUMBER: 122:214101
TITLE: Preparation of 2-(trifluoroethoxy)pyrimidine derivatives as liquid crystal components
INVENTOR(S): Rieffenrath, Volker; Junge, Michael
PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
SOURCE: Ger. Offen., 43 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| DE 4326393 | A1 | 19950209 | DE 1993-4326393 | 19930806 |

PRIORITY APPLN. INFO.: DE 1993-4326393 19930806

OTHER SOURCE(S): MARPAT 122:214101

GI

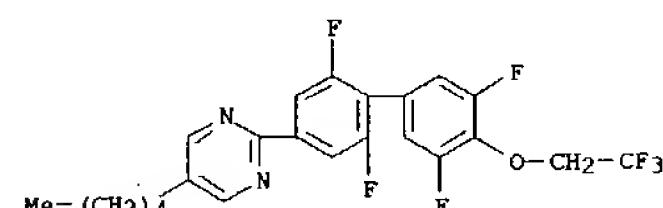


AB Title compds. [I; R = (O-, CO-, CO2-, O2C-, or OCO2-interrupted) alk(en)yl; X1, X2, Y1, Y2 = N, CH, CF; Z = trans-1,4-cyclohexylene, 1,4-phenylene, 5,2-pyrimidylene, etc.; m = 0-2] were prepared. Thus, 2-chloro-5-bromopyrimidine was etherified by CF₃CH₂OH and the product condensed with p-(trans-4-pentylcyclohexyl)phenylboronic acid to give I (R = BuCH₂, Z = trans-1,4-cyclohexylene, X1 = X2 = CH, Y1 = Y2 = N, m = 1) of K 121 N 147.9 I, Δn = +0.141; Δε = 15.87.

IT 161952-54-1P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of 2-(trifluoroethoxy)pyrimidine derivs. as liquid crystal components)

RN 161952-54-1 CAPLUS

CN Pyrimidine, 5-pentyl-2-[2,3',5',6'-tetrafluoro-4'-(2,2,2-trifluoroethoxy)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



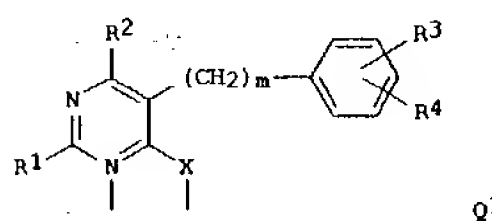
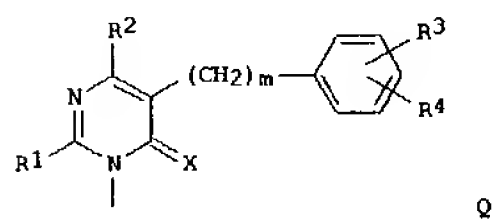
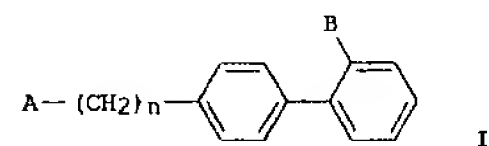
9/811, 359

09/ 835,523

L9 ANSWER 370 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:464395 CAPLUS
 DOCUMENT NUMBER: 122:214093
 TITLE: Preparation of pyrimidine derivatives as angiotensin II antagonists
 INVENTOR(S): Minegishi, Torataro; Ohkubo, Akihiro; Shimoyama, Izumi; Nagano, Hideki; Iida, Shigeo; Sato, Hiroaki; Shirakami, Yoshiko; Mizuta, Tadashi
 PATENT ASSIGNEE(S): NKK Corp., Japan
 SOURCE: PCT Int. Appl., 91 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| WO 9426721 | A1 | 19941124 | WO 1994-JP764 | 19940512 |
| W: CN, DE, GB, JP, US | | | | |
| DE 4493151 | T | 19950720 | DE 1994-4493151 | 19940512 |
| CN 1109687 | A | 19951004 | CN 1994-190285 | 19940512 |
| GB 2284419 | A1 | 19950607 | GB 1995-538 | 19950111 |
| PRIORITY APPLN. INFO.: | | | JP 1993-135443 | 19930513 |
| | | | JP 1994-73982 | 19940317 |
| | | | WO 1994-JP764 | 19940512 |

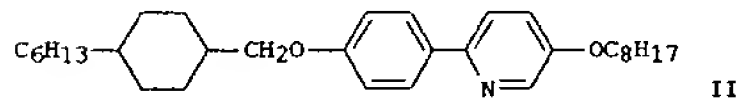
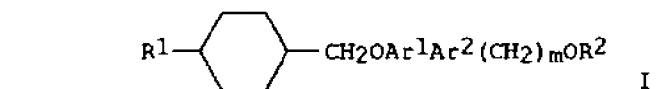
OTHER SOURCE(S): MARPAT 122:214093
 GI



L9 ANSWER 371 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:464381 CAPLUS
 DOCUMENT NUMBER: 122:213935
 TITLE: Preparation of pyridine derivatives as liquid crystals
 INVENTOR(S): Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06298736 | A2 | 19941025 | JP 1993-89953 | 19930416 |
| PRIORITY APPLN. INFO.: | | | JP 1993-89953 | 19930416 |

OTHER SOURCE(S): MARPAT 122:213935
 GI



AB The title compds. I [one of Ar1, Ar2 is pyridine-2,5-diyl, the other is 1,4-phenylene; R1, R2 = alkyl; m = 0 or 1] are prepared. During temperature increase, pyridine derivative II (preparation given) undergoes a transition from the crystalline phase to the smectic C phase at 129°.

IT 161946-27-6
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal composition)

RN 161946-27-6 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with trans-2-[4-[(4-hexylcyclohexyl)methoxy]phenyl]-5-[(hexyloxy)methyl]pyridine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine and 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

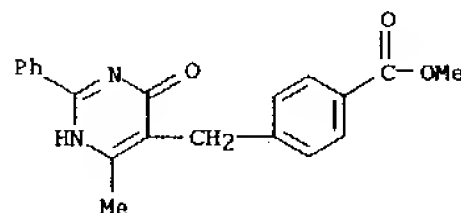
CRN 161946-24-3
 CMF C31 H47 N O2

Relative stereochemistry.

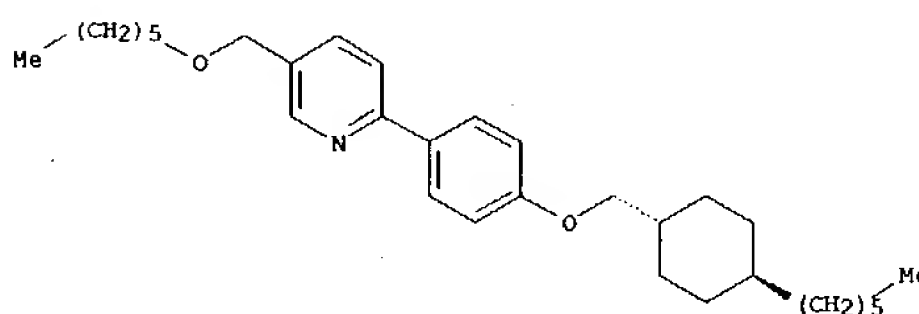
L9 ANSWER 370 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

AB Pyrimidine derivs. I (A = Q, Q1; B = carboxy, alkoxycarbonyl, optionally protected tetrazolyl; n = 1, 2; R1, R2 = H, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, halo, optionally substituted phenyl; R3, R4 = H, alkyl, alkoxy, halo, nitro, sulfonyl, carboxy, alkoxycarbonyl, cycloalkoxycarbonyloxyalkoxycarbonyl, alkanoyloxyalkoxycarbonyl, optionally protected tetrazolyl; R3R4 may form a fused 5- or 6-membered ring which may be substituted; X = O, NH, S(O)p; p = 0, 1, 2; m = 1, 2) and their salts, useful as angiotensin II antagonists, were prepared. Thus, stirring Me 4'-bromomethylbiphenyl-2-carboxylate with 5-(4-methoxycarbonylbiphenyl)-2,6-dimethylpyrimidine-4(3H)-one and NaOMe in DMF at room temperature for 24 h gave 5-(4-methoxycarbonylbiphenyl)-4-(2'-methoxycarbonylbiphenyl-4-yl)methoxy-2,6-dimethylpyrimidine. 2-Ethyl-5-(4-methoxycarbonylbiphenyl)-6-methyl-4-{2'-(1H-tetrazol-5-yl)biphenyl-4-yl}methoxypyrimidine showed IC50 of 1.9 x 10-8 M for angiotensin II binding inhibition activity. Formulations containing I were given.

IT 161948-13-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of pyrimidine derivs. as angiotensin II antagonists)
 RN 161948-13-6 CAPLUS
 CN Benzoic acid, 4-[(1,4-dihydro-6-methyl-4-oxo-2-phenyl-5-pyrimidinyl)methyl]-, methyl ester (9CI) (CA INDEX NAME)

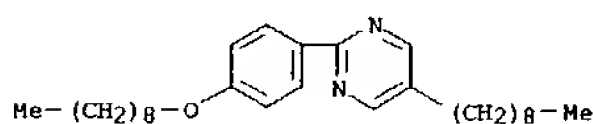


L9 ANSWER 371 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



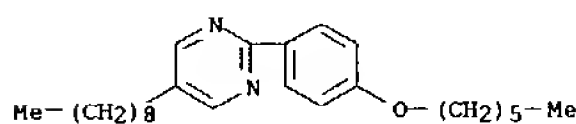
CM 2

CRN 99895-85-9
 CMF C28 H44 N2 O



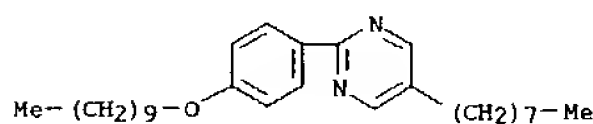
CM 3

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 4

CRN 57202-52-5
 CMF C28 H44 N2 O



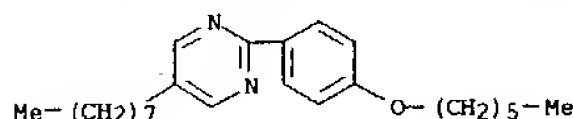
CM 5

CRN 57202-48-9
 CMF C24 H36 N2 O

9/811, 359

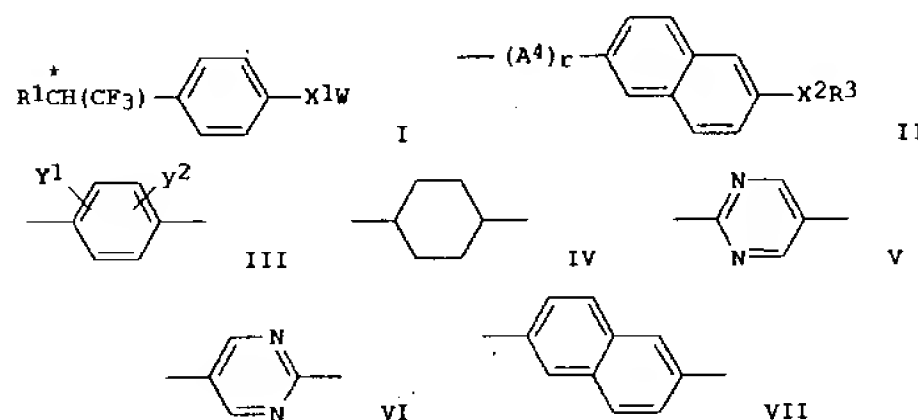
09/835,523

L9 ANSWER 371 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 372 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:451840 CAPLUS
 DOCUMENT NUMBER: 122:201405
 TITLE: Optically active compound for liquid crystal composition
 INVENTOR(S): Nohira, Hiroyuki; Nagashima, Yutaka; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06240257 | A2 | 19940830 | JP 1993-51267 | 19930218 |
| PRIORITY APPLN. INFO.: | | | JP 1993-51267 | 19930218 |
| GI | | | | |

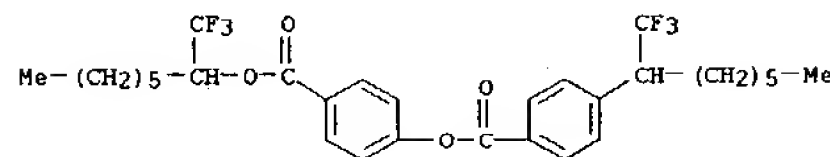


AB An optically active compound for a liquid crystal composition for a display device is represented by the formula I (W = -A1(A2)m(A3)nCO2C*(CF3)R2 or II: R1-3 = C1-18 straight-chain alkyl; X1, X2 = a single bond, CO2, CH2O, OCO, or OCH2; A1-4 = I-II-VII; Y1, Y2 = H or halogen; m, n = 0 or 1; * = optically active site).
 IT 161880-62-2
 RL: TEM (Technical or engineered material use); USES (Uses) (liquid crystal composition, for display devices)
 RN 161880-62-2 CAPLUS
 CN Benzoic acid, 4-[[1-(trifluoromethyl)heptyl]-, 4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and trans-4-(5-nonyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate (9CI) (CA INDEX NAME)

CM 1

L9 ANSWER 372 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

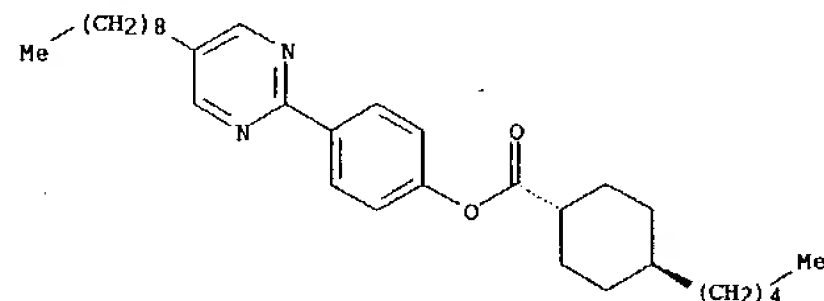
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 CMF C30 H36 F6 O4



CM 2

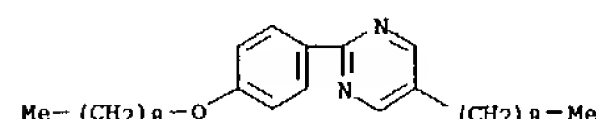
CRN 160189-32-2
 CMF C31 H46 N2 O2

Relative stereochemistry.



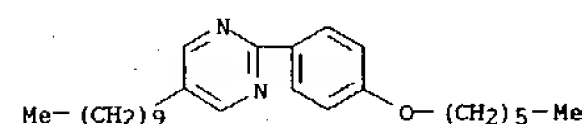
CM 3

CRN 99895-85-9
 CMF C28 H44 N2 O



CM 4

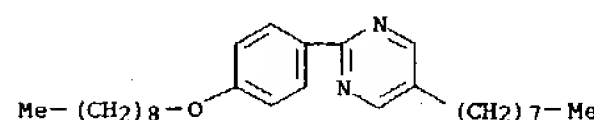
CRN 57202-60-5
 CMF C26 H40 N2 O



L9 ANSWER 372 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 5

CRN 57202-51-4
 CMF C27 H42 N2 O



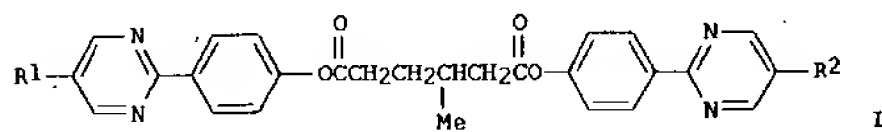
9/811,359

09/ 835,523

L9 ANSWER 373 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:446627 CAPLUS
 DOCUMENT NUMBER: 122:201425
 TITLE: Preparation of bisphenylpyrimidine compounds for liquid crystal compositions
 INVENTOR(S): Yoshizawa, Atsushi; Nishama, Isa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 06306055 | A2 | 19941101 | JP 1993-101205 | 19930427 |
| PRIORITY APPLN. INFO.: | | | JP 1993-101205 | 19930427 |
| OTHER SOURCE(S): | | MARPAT 122:201425 | | |

GI



AB Bis[4-(2-pyrimidinyl)phenyl] 3-methyladipate derivs. (I; R1, R2 = C1-18 alkyl), which are preferably optically active and induce cholesteric phase when they are added to a chiral smectic C liquid crystal, are prepared. A liquid crystal composition contains 21 bisphenylpyrimidine derivs. I. This liquid crystal composition takes stable thermotropic liquid crystal state with liquid phase-cholesteric (Ch) phase-smectic A (SA) phase-chiral smectic A (SC) phase, in some cases exhibit twist grain boundary (TGB) phase, show good liquid crystal orientation and high contrast in the SC* phase due to the presence of the Ch phase, and is very useful as a liquid crystal material for optoelectronics devices such as a liquid crystal TV display, optical printer head, and light bulb. Thus, 1.92 g 5-heptyl-2-(4-hydroxyphenyl)pyrimidine was dissolved in 20 mL CH2Cl2 followed by adding 320 mg (R)-(+)-3-methyladipic acid, 30 mg 4-dimethylaminopyridine, and 1.0 g DCC and the resulting mixture was stirred at room temperature overnight to give 66.3% (R)-I (R1 = R2 = octyl), (II) which showed a Ch phase at 137°. A liquid crystal comprising 10 weight part II and 90 weight part 5-(4-heptanoyloxyphenyl)-2-(4-hexyloxyphenyl)pyrimidine showed a Ch phase at 202°, a TGBA phase at 192°, a SA phase at 190°, and a SC* phase at 185° and induced a Ch phase which is absent in the base liquid crystal.

IT 161826-66-0
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (chiral smectic C liquid crystal compns. with cholesteric phase for displays)
 RN 161826-66-0 CAPLUS

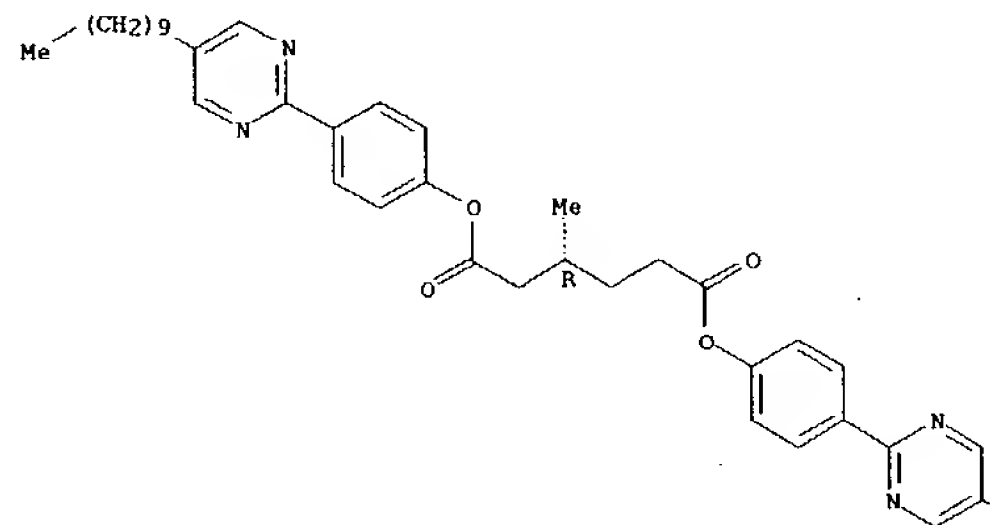
L9 ANSWER 373 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-decyl-2-pyrimidinyl)phenyl] ester, (R)-, mixt. with 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 161826-64-8
 CMF C47 H64 N4 O4

Absolute stereochemistry.

PAGE 1-A



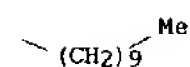
L9 ANSWER 373 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B

L9 ANSWER 374 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:441161 CAPLUS
 DOCUMENT NUMBER: 122:201407
 TITLE: Optically active cyclic ether compound and liquid-crystal composition containing same
 INVENTOR(S): Takehara, Sadao; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

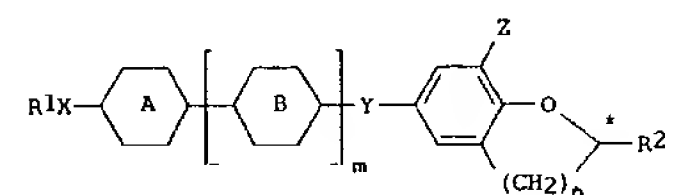
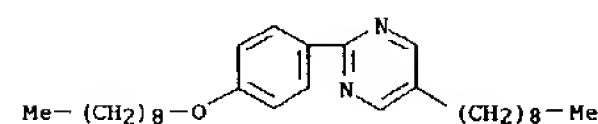
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06256337 | A2 | 19940913 | JP 1993-49712 | 19930310 |
| PRIORITY APPLN. INFO.: | | | JP 1993-49712 | 19930310 |

GI



CM 2

CRN 99895-85-9
 CMF C28 H44 N2 O



AB The title optically active compound has a formula I [R1 = C1-18 alkyl; X = single bond, O, CO2, OCO; Y = CO2, CH2O; m = 0, 1; n = 1, 2; Z = H, halo, OCHF2, OCH3, OCF3, CN, NO2; R2 = C1-10 alkyl; A = 1,4-phenylene, trans-1,4-cyclohexylene; * = asym. C]. Also claimed is a liquid-crystal composition containing the above optically active compound. This optically active substance shows good chemical stability.

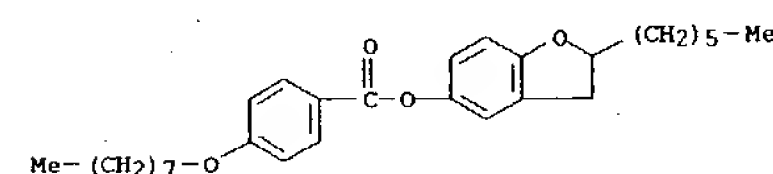
IT 161760-99-2
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal composition for display device)

RN 161760-99-2 CAPLUS

CN Benzoic acid, 4-(octyloxy)-, 2-hexyl-2,3-dihydro-5-benzofuranyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 161760-96-9
 CMF C29 H40 O4

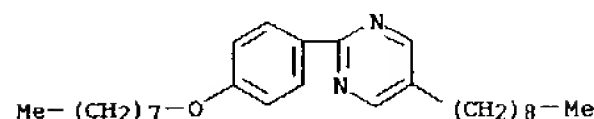


09/ 835,523

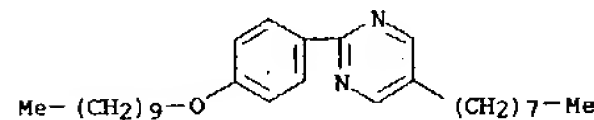
9/811, 359

L9 ANSWER 374 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

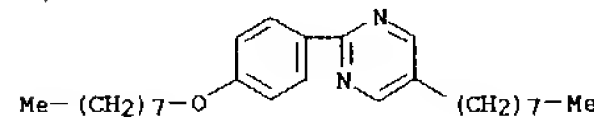
CM 2
CRN 57202-58-1
CMF C27 H42 N2 O



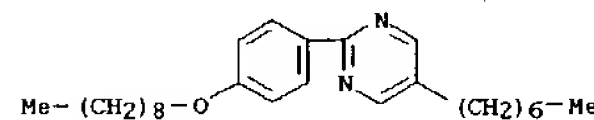
CM 3
CRN 57202-52-5
CMF C28 H44 N2 O



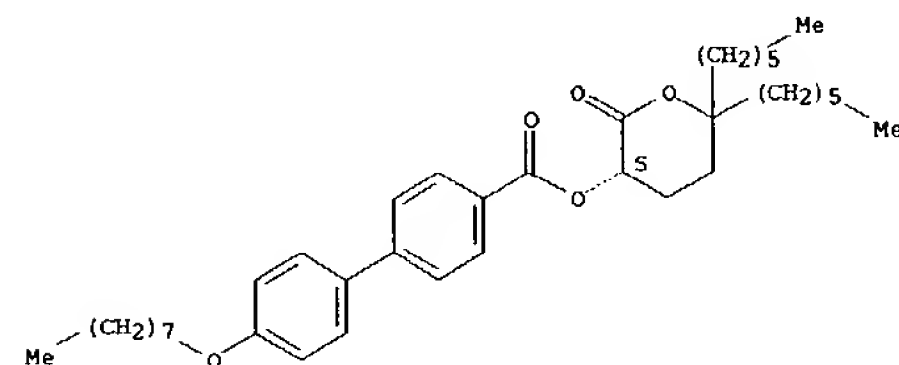
CM 4
CRN 57202-50-3
CMF C26 H40 N2 O



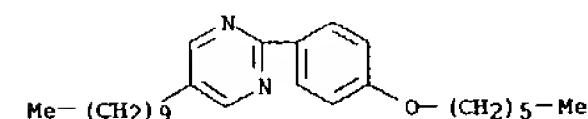
CM 5
CRN 57202-40-1
CMF C26 H40 N2 O



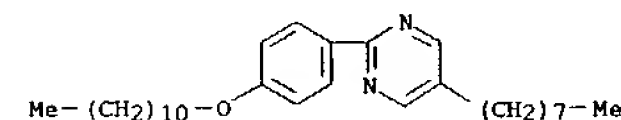
L9 ANSWER 375 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



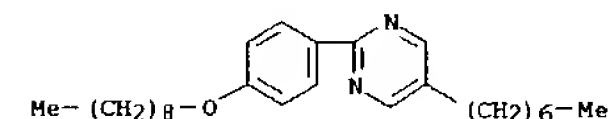
CM 2
CRN 57202-60-5
CMF C26 H40 N2 O



CM 3
CRN 57202-53-6
CMF C29 H46 N2 O

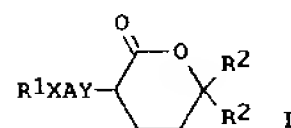


CM 4
CRN 57202-40-1
CMF C26 H40 N2 O



L9 ANSWER 375 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:441122 CAPLUS
DOCUMENT NUMBER: 122:201396
TITLE: Optically active substance and liquid crystal composition containing same
INVENTOR(S): Kageyama, Yoshitaka; Ikemoto, Tetsuya; Nakaoka, Yuriko; Terada, Fumiko
PATENT ASSIGNEE(S): Mitsubishi Rayon Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 06211828 | A2 | 19940802 | JP 1991-181048 | 19910722 |
| JP 2974827 | B2 | 19991110 | | |
| PRIORITY APPLN. INFO.: | | | JP 1991-181048 | 19910722 |
| OTHER SOURCE(S): | | | MARPAT 122:201396 | |
| GI | | | | |



AB The title optically-active substance is I [R1 = C1-18 alkyl, C2-18 alkenyl, alkoxyalkyl, or their halo-substituted product; R2 = C4-18 alkyl; X = single bond, O, CO2, OCO; Y = single bond, CO2, O, CH2O, OCH2; A = divalent aromatic group]. The title liquid crystal composition contains ≥ 1 I.
IT 161759-74-6
RL: TEM (Technical or engineered material use); USES (Uses) (ferroelec. liquid crystal composition)
RN 161759-74-6 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 6,6-dihexyltetrahydro-2-oxo-2H-pyran-3-yl ester, (S)-, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(undecyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
CRN 140943-94-8
CMF C38 H56 O5

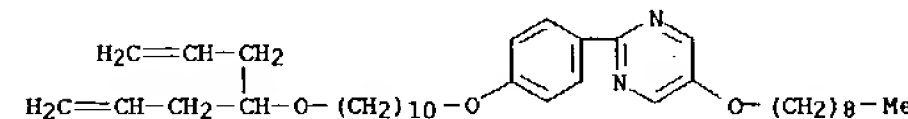
Absolute stereochemistry.

L9 ANSWER 376 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:438077 CAPLUS
DOCUMENT NUMBER: 122:201421
TITLE: Liquid-crystal electrooptical device for gradation display
INVENTOR(S): Endo, Hiroyuki; Hacha, Satoshi
PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06281964 | A2 | 19941007 | JP 1993-89459 | 19930325 |
| PRIORITY APPLN. INFO.: | | | JP 1993-89459 | 19930325 |

AB A liquid-crystal electrooptical device for gradation display is obtained by cooling a ferroelec. polymeric liquid crystal composition after maintaining in the temperature region over which the crystalline and isotropic phases coexist and sandwiching the liquid crystal composition between a pair of electrodes.
IT 151009-34-6
RL: TEM (Technical or engineered material use); USES (Uses) (ferroelec. liquid crystal comps. containing, for electrooptical devices for displaying gradations)
RN 151009-34-6 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-[[4-[[10-[[1-(2-propenyl)-3-butenyl]oxy]decyl]oxy]benzoyl]oxy]-, 1-methylbutyl ester, (S)-, polymer with 5-(nonyloxy)-2-[4-[[10-[[1-(2-propenyl)-3-butenyl]oxy]decyl]oxy]phenyl]pyrimidine and 1,1,3,3-tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1
CRN 150664-29-2
CMF C36 H56 N2 O3



CM 2
CRN 150664-16-7
CMF C42 H54 O6

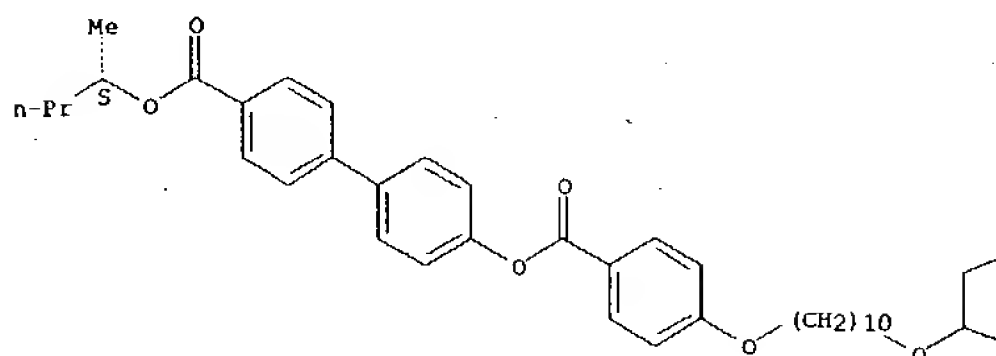
Absolute stereochemistry.

9/811, 359

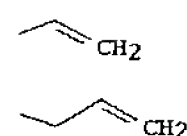
09/ 835, 523

L9 ANSWER 376 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B



CM 3

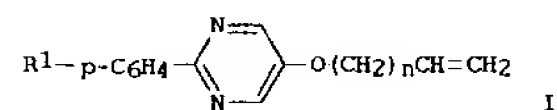
CRN 3277-26-7
CMF C4 H14 O Si2

Me2SiH-O-SiHMe2

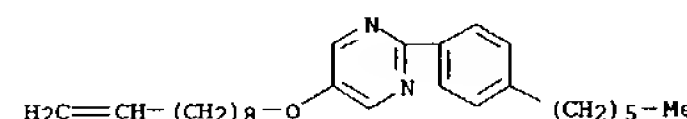
L9 ANSWER 377 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:435684 CAPLUS
DOCUMENT NUMBER: 122:201409
TITLE: Liquid crystal pyrimidine compound
INVENTOR(S): Watanabe, Tetsuya; Yanagi, Tatsuro; Yoshio, Kuniko;
Sato, Masahiro
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 06287181 | A2 | 19941011 | JP 1993-329785 | 19931130 |
| PRIORITY APPLN. INFO.: | | | JP 1993-39352 | 19930202 |
| OTHER SOURCE(S): | | MARPAT 122:201409 | | |
| GI | | | | |



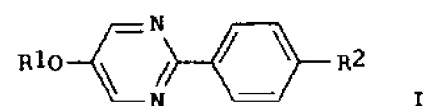
AB The liquid crystal pyrimidine compound is represented by I [R1 = C4-12 alkyl; n = 4-12].
IT 157784-42-4
RL: DEV (Device component use); USES (Uses)
(5c phase liquid crystal)
RN 157784-42-4 CAPLUS
CN Pyrimidine, 5-(9-decenyloxy)-2-(4-hexylphenyl)- (9CI) (CA INDEX NAME)



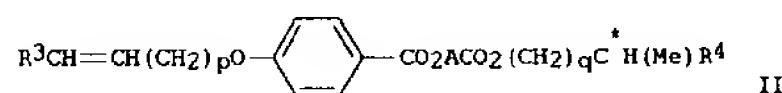
L9 ANSWER 378 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:435653 CAPLUS
DOCUMENT NUMBER: 122:326519
TITLE: Ferroelectric liquid crystal composition
INVENTOR(S): Yanagi, Tatsuro; Yoshio, Kuniko; Watanabe, Tetsuya;
Sato, Masahiro
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

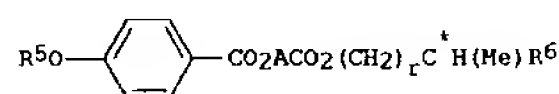
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 06240261 | A2 | 19940830 | JP 1993-47551 | 19930212 |
| PRIORITY APPLN. INFO.: | | | JP 1993-47551 | 19930212 |
| OTHER SOURCE(S): | | MARPAT 122:326519 | | |
| GI | | | | |



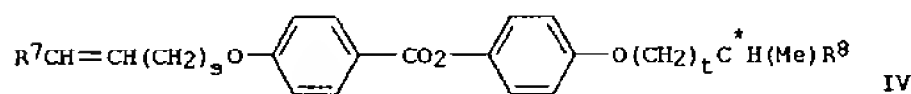
I



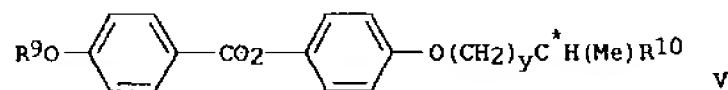
II



III



IV



V

AB A ferroelec. liquid crystal composition exhibiting a chiral smectic C phase for use in a display device showing increased operating temperature range and reduced orientation variation comprises a liquid crystal compound having the formula I (R1, R2 = C1-18 alkyl) and 2l compound selected from the liquid crystal compds. having the formulas II-V (R3, R7 = H or C1-12 alkyl; p, s = an integer of 1-12; A = 2,6-naphthylene; q, r = an integer of 0-5; C* = an unsym. C atom; R4 = C2-10 alkyl; R5, R9 = C1-18 alkyl; R6, R8, R10 = C2-10 alkyl; t, y = an integer of 1-5).

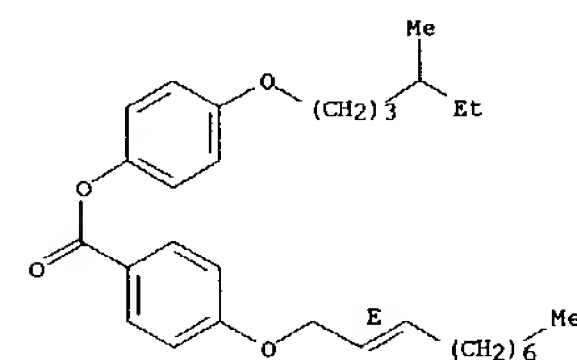
IT 161712-56-7
RL: TEM (Technical or engineered material use); USES (Uses)
(ferroelec. liquid crystal composition, for electrooptical display devices)
RN 161712-56-7 CAPLUS
CN 2-Naphthalenecarboxylic acid, 6-[[4-(dodecyloxy)benzoyl]oxy]-.

L9 ANSWER 378 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
1-methylheptyl ester, mixt. with 5-(decyloxy)-2-(4-nonylphenyl)pyrimidine, 4-methylhexyl 6-[[4-(dodecyloxy)benzoyl]oxy]-2-naphthalenecarboxylate and (E)-4-[[4-(4-methylhexyl)oxy]phenyl 4-(2-decenyloxy)benzoate (9CI) (CA INDEX NAME)

CM 1

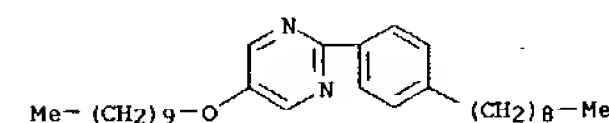
CRN 160850-23-7
CMF C30 H42 O4

Double bond geometry as shown.



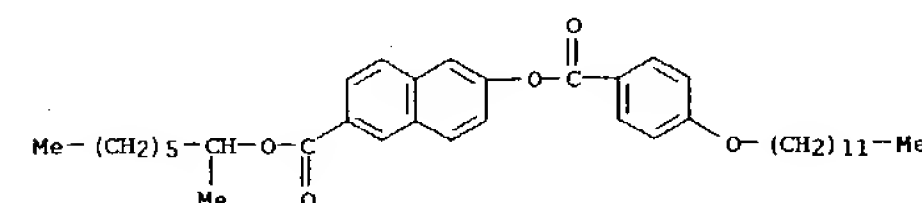
CM 2

CRN 121640-79-7
CMF C29 H46 N2 O



CM 3

CRN 119557-76-5
CMF C38 H52 O5



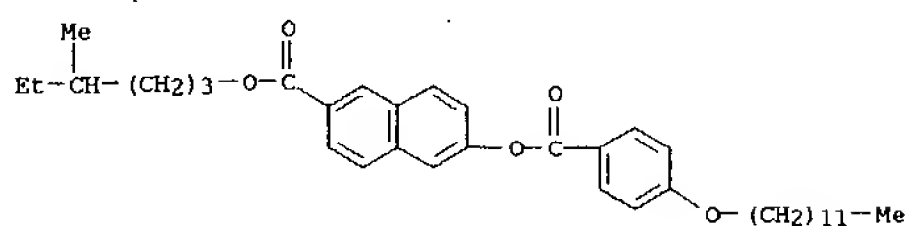
CM 4

CRN 119557-23-2

9/811, 359

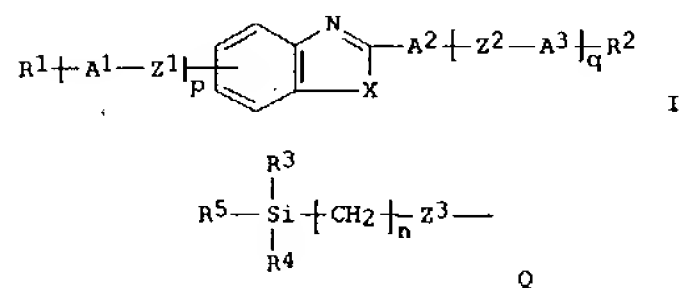
09/035,523

L9 ANSWER 378 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C37 H50 05



L9 ANSWER 379 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:435596 CAPLUS
DOCUMENT NUMBER: 122:201395
TITLE: Liquid crystal compound and its-containing liquid crystal composition used in liquid crystal display
INVENTOR(S): Iwaki, Takashi; Takiguchi, Takao; Tokano, Goji; Yamada, Yoko; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 80 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

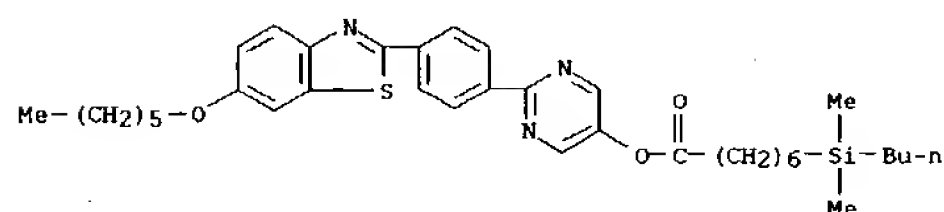
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------|------|----------|-----------------|----------|
| JP 06128276 | A2 | 19940510 | JP 1992-306249 | 19921020 |
| PRIORITY APPLN. INFO.: GI | | | JP 1992-306249 | 19921020 |



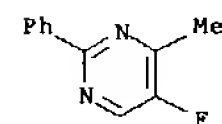
AB The title liquid crystal compound has formula I (R1, R2 = C1-18 alkyl whose methylene group can be replaced by O, S, CO, CO2, OCO or substituted by F; when 1 of R1 or R2 is Q (R3-5 is defined as R1 and R2; Z3 = O, CO, CO2, OCO), the other R1 or R2 may be H, halo, or CN; X = O, S; A1-3 = specified aromatic or heterocyclic group; Z1, Z2 = single bond, CO2, OCO, CH2O, OCH2; p, q = 0, 1; n = 1-12). The liquid crystal composition contains 1-40% of the above liquid crystal compound. The liquid crystal display using the liquid crystal composition shows rapid response and can reduce the temperature dependence of the response speed.

IT 161707-59-1
RL: DEV (Device component use); USES (Uses)
(contained in liquid crystal composition for liquid crystal display)
RN 161707-59-1 CAPLUS
CN Heptanoic acid, 7-(butyldimethylsilyl)-, 2-[4-[6-(hexyloxy)-2-benzothiazolyl]phenyl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)

L9 ANSWER 379 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 380 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:427479 CAPLUS
DOCUMENT NUMBER: 123:33016
TITLE: Reactions of 1-substituted polyfluoro-1-propenyl p-toluenesulfonates with bifunctional nitrogen nucleophiles. A new expedient access to monofluorinated nitrogen heterocycles
AUTHOR(S): Funabiki, Kazumasa; Ohtsuki, Tetsuya; Ishihara, Takashi; Yamanaka, Hiroki
CORPORATE SOURCE: Dep. Chem. Materials Technology, Kyoto Inst. Technology, Kyoto, 606, Japan
SOURCE: Chemistry Letters (1995), (3), 239-40
CODEN: CHLTAG; ISSN: 0366-7022
PUBLISHER: Nippon Kagakukai
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 1-Substituted 2,3,3-trifluoro-1-propenyl p-toluenesulfonates, readily available by the alkylation or arylation of 2,2,3-trifluoro-1-(tosyloxy)-1-propenyllithium or -zinc reagent, reacted smoothly with amidine or hydrazine derivs. at 70° for 1 h to give the corresponding 5-fluoropyrimidine or 4-fluoropyrazole compds., resp., in moderate to excellent yields.
IT 164021-56-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 164021-56-1 CAPLUS
CN Pyrimidine, 5-fluoro-4-methyl-2-phenyl- (9CI) (CA INDEX NAME)



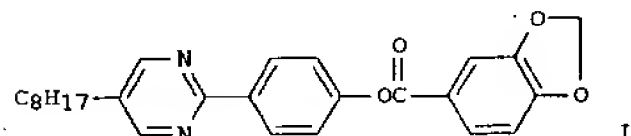
9/811,359

~~09/835,523~~

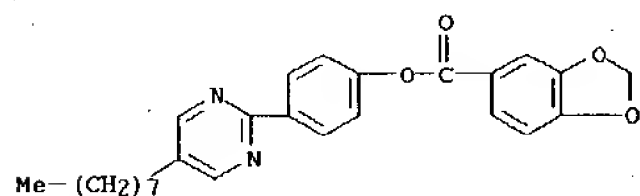
L9 ANSWER 381 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:422846 CAPLUS
DOCUMENT NUMBER: 122:202009
TITLE: Aromatic compounds and their use in liquid crystal mixtures.
INVENTOR(S): Fenkl, Franz; Manero, Javier; Schlosser, Hubert; Jungbauer, Dietmar
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Eur. Pat. Appl., 63 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| EP 637585 | A1 | 19950208 | EP 1994-111574 | 19940725 |
| R: DE, FR, GB | | | | |
| DE 4326151 | A1 | 19950209 | DE 1993-4326151 | 19930804 |
| US 5626791 | A | 19970506 | US 1994-284796 | 19940802 |
| JP 07070060 | A2 | 19950314 | JP 1994-183627 | 19940804 |

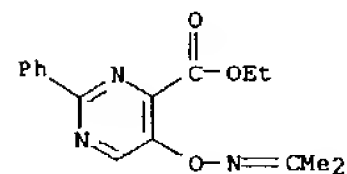
PRIORITY APPLN. INFO.: DE 1993-4326151 19930804
OTHER SOURCE(S): MARPAT 122:202009
GI



AB Novel aromatic compds. were disclosed for use in ferroelec. liquid crystals. An example compound, 4-(5-octyl-2-pyrimidinyl)phenyl 1,3-benzodioxole-5-carboxylate (I) was prepared and incorporated into a liquid crystal mixture
IT **161614-24-0P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of liquid crystal (pyrimidinyl)phenyl benzodioxolecarboxylates and analogs)
RN 161614-24-0 CAPLUS
CN 1,3-Benzodioxole-5-carboxylic acid, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 382 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:411707 CAPLUS
DOCUMENT NUMBER: 123:143785
TITLE: A novel synthesis of isoxazolo[4,5-d]pyrimidine derivatives
AUTHOR(S): Wagner, E.; Becan, L.
CORPORATE SOURCE: Dep. Technol. Drugs, Wroclaw Univ. Med., Wroclaw, 50-140, Pol.
SOURCE: Polish Journal of Chemistry (1995), 69(1), 70-3
CODEN: PJCHDQ; ISSN: 0137-5083
PUBLISHER: Polish Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 123:143785
AB The title ring system was synthesized through one step reactions starting from pyrimidine derivs.
IT **166537-35-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
RN 166537-35-5 CAPLUS
CN 4-Pyrimidinecarboxylic acid, 5-[(1-methylethylidene)amino]oxy]-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)

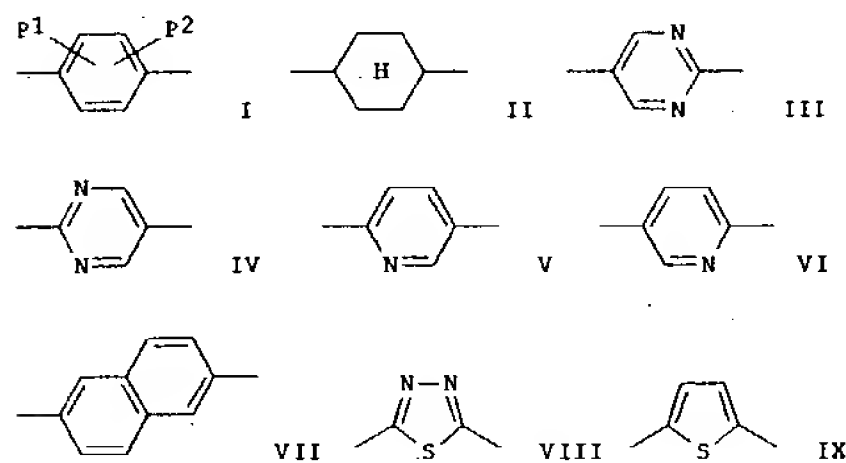


L9 ANSWER 381 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 383 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:408425 CAPLUS
DOCUMENT NUMBER: 122:174617
TITLE: Liquid crystal composition containing optically active compound
INVENTOR(S): Nohira, Hiroyuki; Noguchi, Koji; Nakazawa, Ikuo; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 55 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06234972 | A2 | 19940823 | JP 1993-44357 | 19930210 |

PRIORITY APPLN. INFO.: JP 1993-44357 19930210
GI

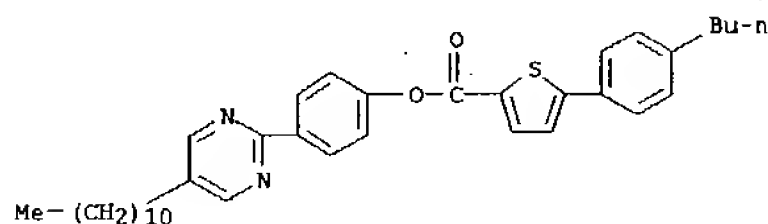


AB A liquid crystal composition showing good switching property and high response rate when used in electrooptical display devices contains an optically active compound represented by the formula $F(CH_2)_mC^*HFX_3(A1X1)1A2X2A3X4C^*HF(CH_2)_nF$ (1 = 0 or 1; m, n = an integer of 1-18; A1-3 = I-IX; P1, P2 = H, halogen, CH3, CF3, or CN; X1, X2 = a single bond, CO2, OCO, CH2O, or OCH2; X3 = CH2O, CO2, or CH2OCO; X4 = OCH2, OCO, or CO2CH2; * = optically active site).
IT **161454-69-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal compns. containing optically active compds. and, for display devices)
RN 161454-69-9 CAPLUS
CN 2-Thiophenecarboxylic acid, 5-(4-butylphenyl)-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)

9/811, 359

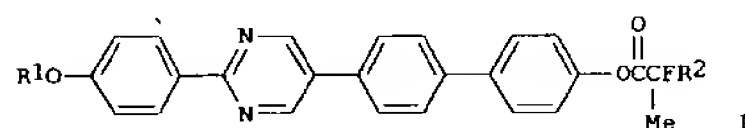
09/ 835, 523

L9 ANSWER 383 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



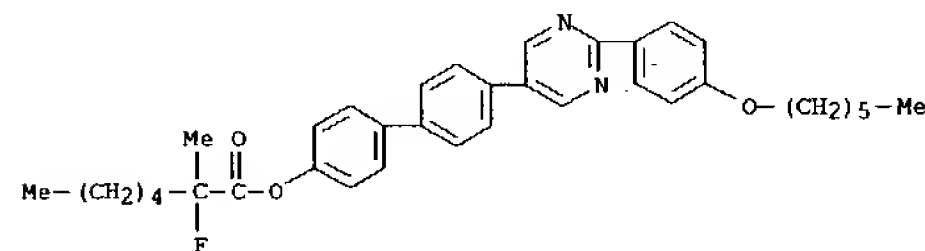
L9 ANSWER 384 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:389750 CAPLUS
 DOCUMENT NUMBER: 122:147633
 TITLE: Preparation of optically active 2-(4-alkoxyphenyl)-5-[4'-(2-fluoro-2-methylalkanoxy)biphenyl]pyrimidine derivatives as liquid crystals for liquid crystal compositions and optical switching devices
 INVENTOR(S): Yokoyama, Akihisa; Nishama, Isa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|-------------------|----------|-----------------|----------|
| JP 06298740 | A2 | 19941025 | JP 1993-89952 | 19930416 |
| PRIORITY APPLN. INFO.: | | | JP 1993-89952 | 19930416 |
| OTHER SOURCE(S): | MARPAT 122:147633 | | | |
| GI | | | | |

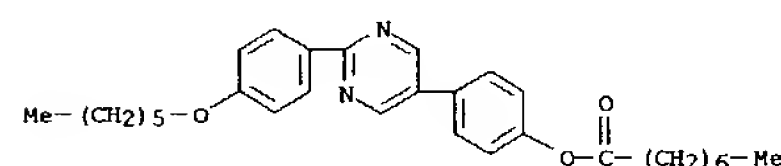


AB Optically active fluorinated esters (I; R1, R2 = C2-18 alkyl) are prepared. A liquid crystal composition and an optical switching device comprises at least one of I. These compounds can take stable thermotropic liquid crystal state, are useful as liquid crystal materials for an optoelectronics-related device such as a liquid crystal TV display, optical printer head, optical Fourier transformation device, and light bulb using liquid crystal or electrochromism property, and provide a liquid crystal composition with large spontaneous polarization, low viscosity, and chiral smectic C phase at a broad range of temperature including room temperature, suitable for an optical switching device with capability of fast response. Thus, a Grignard reagent of 4-bromo-4'-methoxymethoxybiphenyl was coupled with 5-bromo-2-(4-hexyloxyphenyl)pyrimidine in the presence of (PPh3)4Pd(0) in THF followed by treatment with 6 N aqueous HCl in 2-propanol/THF for deprotection to give 41% 2-(4-hexyloxyphenyl)-5-(4'-hydroxybiphenyl)pyrimidine which was esterified with 2-fluoro-2-methylheptanoic acid by using DCC in pyridine to give optically active title compound I (R1 = C6H13, R2 = C5H11) (II). II showed chiral smectic C phase at $\geq 250^\circ$ and spontaneous polarization 250 nC/cm² at 200° and 30 Vpp in a liquid crystal cell. A liquid crystal composition containing 2 weight% II and a mixture of 8 phenylpyrimidine derivatives (98 weight%) changed from the smectic A phase to chiral smectic C phase at 58° and showed an electrooptical response speed of 324 μ s in a liquid crystal cell.

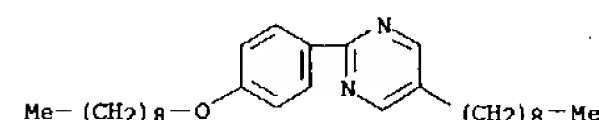
L9 ANSWER 384 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 IT 161291-01-6
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal composition for optical switching device and display)
 RN 161291-01-6 CAPLUS
 CN Octanoic acid, 4-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl]phenyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-hexylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 4'-[2-[4-(hexyloxy)phenyl]-5-pyrimidinyl][1,1'-biphenyl]-4-yl 2-fluoro-2-methylheptanoate, 5-hexyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 4-(5-octyl-2-pyrimidinyl)phenyl octanoate (9CI) (CA INDEX NAME)
 CM 1
 CRN 161291-00-5
 CMF C36 H41 F N2 O3



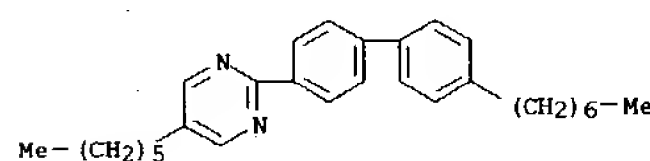
CM 2
 CRN 142310-13-2
 CMF C30 H38 N2 O3



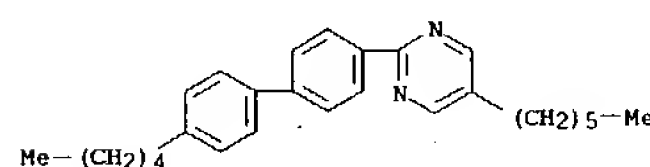
CM 3
 CRN 99895-85-9
 CMF C28 H44 N2 O



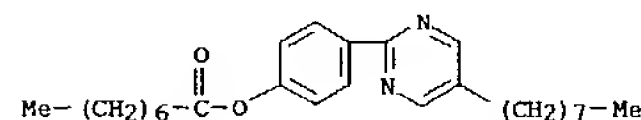
L9 ANSWER 384 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM 4
 CRN 92519-52-3
 CMF C29 H38 N2



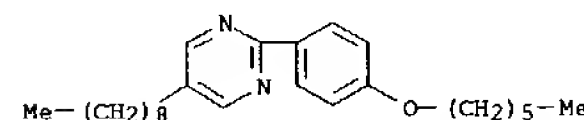
CM 5
 CRN 92178-46-6
 CMF C27 H34 N2



CM 6
 CRN 58415-92-2
 CMF C26 H38 N2 O2



CM 7
 CRN 57202-56-9
 CMF C25 H38 N2 O

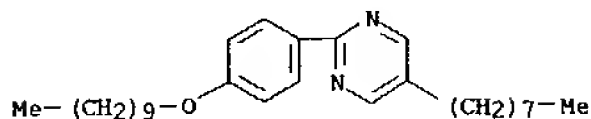


CM 8
 CRN 57202-52-5

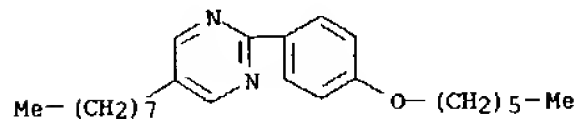
9/811, 359

097-835,523

L9 ANSWER 384 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CMF C28 H44 N2 O



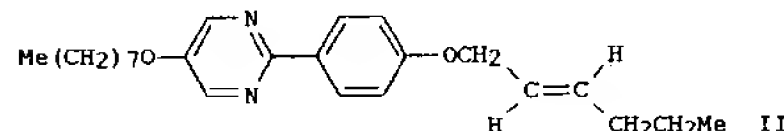
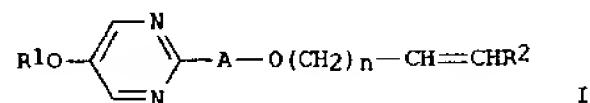
CM 9
CRN 57202-48-9
CMF C24 H36 N2 O



L9 ANSWER 385 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:389749 CAPLUS
DOCUMENT NUMBER: 122:147632
TITLE: Preparation of 2-(4-alkenyloxyphenyl)-4-alkoxypyrimidine derivatives as liquid crystals for liquid crystal compositions
INVENTOR(S): Watanabe, Tetsuya; Sato, Masahiro; Yoshio, Kunikyo; Yanagi, Tatsuro
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06298741 | A2 | 19941025 | JP 1993-113672 | 19930415 |

PRIORITY APPLN. INFO.: JP 1993-113672 19930415
OTHER SOURCE(S): MARPAT 122:147632
GI



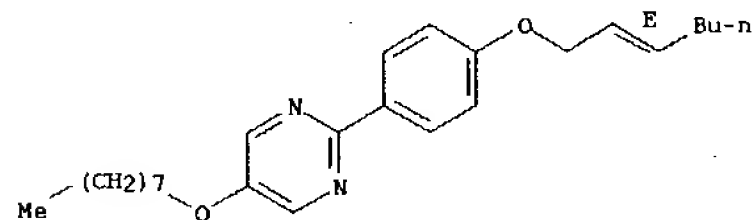
AB The title compds. (I: R1 = C4-12 alkyl; A = 1,4-phenylene optionally substituted with 1 or 2 F atoms; n = 1-12; R2 = C1-12 alkyl), which show smectic C phase, are prepared. Thus, 5-octyloxy-2-(4-hydroxyphenyl)pyrimidine 2.0, trans-2-hexenol 0.8, and PPh3 2.1 g were dissolved in THF followed by adding 1.4 g di-Et azocarboxylate at 10° and the resulting mixture was stirred at room temperature overnight to give, after silica gel chromatog. and recrystn. from EtOH, 1.6 g title compound (II), which showed the smectic C phase at 97.5°. A liquid crystal composition containing II 15, trans-I (R1 = octyl, A = 1,4-phenylene, n = 1, R2 = Bu) 20, and cis-I (R1 = nonyl, A = 1,4-phenylene, n = 2, R2 = Et) 15 weight% showed an electrooptical response speed of 130 μs at 15° and ±10 V/μm in a liquid crystal cell.

IT 161290-99-9
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition for liquid crystal display)
RN 161290-99-9 CAPLUS
CN Pyrimidine, 2-[4-(2-heptenyloxy)phenyl]-5-(octyloxy)-, (E)-, mixt. with 4-(decyloxy)-4'-[[1-(trifluoromethyl)heptyl]oxy]methyl]-1,1'-biphenyl,

L9 ANSWER 385 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
2-[4-(heptyloxy)phenyl]-5-(octyloxy)pyrimidine, (E)-2-[4-(2-hexenyloxy)phenyl]-5-(octyloxy)pyrimidine, 2-[4-(hexyloxy)phenyl]-5-(nonyloxy)pyrimidine and 5-(octyloxy)-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

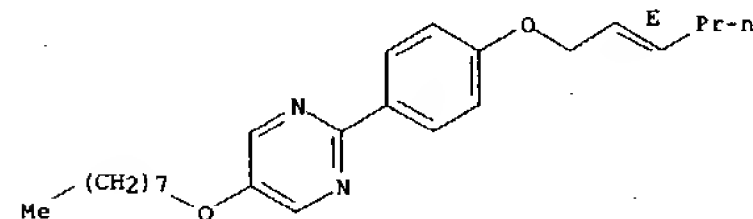
CM 1
CRN 161290-94-4
CMF C25 H36 N2 O2

Double bond geometry as shown.

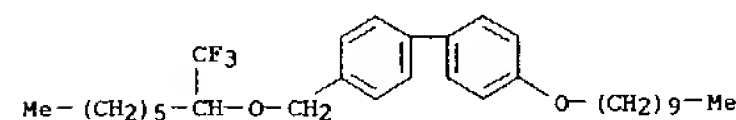


CM 2
CRN 161290-93-3
CMF C24 H34 N2 O2

Double bond geometry as shown.

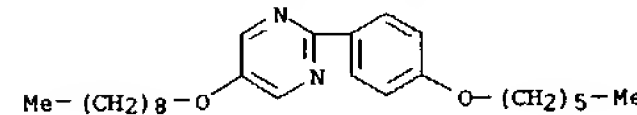


CM 3
CRN 136534-93-5
CMF C31 H45 F3 O2

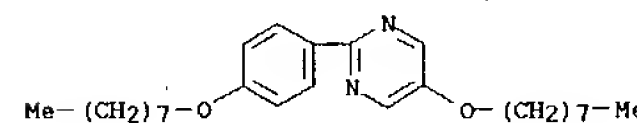


CM 4
CRN 121554-40-3
CMF C25 H38 N2 O2

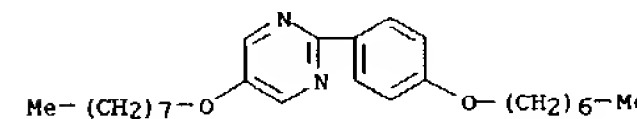
L9 ANSWER 385 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 5
CRN 114767-84-9
CMF C26 H40 N2 O2



CM 6
CRN 114767-82-7
CMF C25 H38 N2 O2

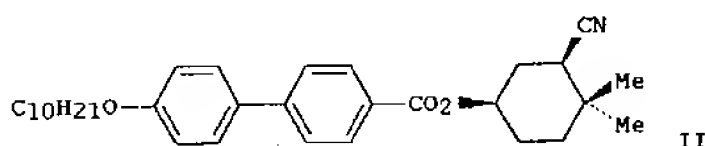
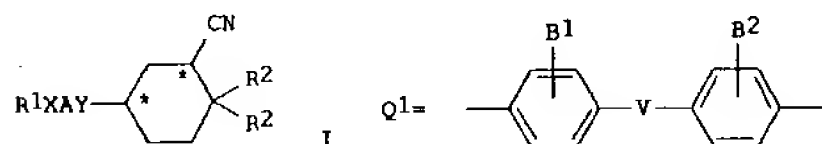


9/811, 359

09/ 835, 523

L9 ANSWER 386 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:374885 CAPLUS
 DOCUMENT NUMBER: 122:148175
 TITLE: Preparation of optically active cyclohexyl biphenylcarboxylates as liquid crystals
 INVENTOR(S): Ikemoto, Tetsuya; Terada, Fumiko; Nakaoka, Yuriko; Mori, Kenji
 PATENT ASSIGNEE(S): Mitsubishi Rayon Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 06329612 | A2 | 19941129 | JP 1991-181184 | 19910722 |
| PRIORITY APPLN. INFO.: | | JP 1991-181184 19910722 | | |
| OTHER SOURCE(S): | | MARPAT 122:148175 | | |
| GI | | | | |



AB The title compds. I [R1 = alkyl, etc.; R2 = alkyl; X = O, CO2, etc.; Y = CO2, etc.; A = Q1, etc.; B1, B2 = H, Me, etc.; V = bond, CH2O, etc.; * indicates asym. carbon] are prepared. A liquid composition containing title compound II (preparation given) and 6 other pyrimidine liquid crystals is in the Sm^{*}C phase at room temperature to 46° and in the SmA phase at 46 - 61°.

IT 161122-70-9
 RL: TEM (Technical or engineered material use); USES (Uses)
 (preparation of optically active cyclohexyl biphenylcarboxylates as liquid crystals)

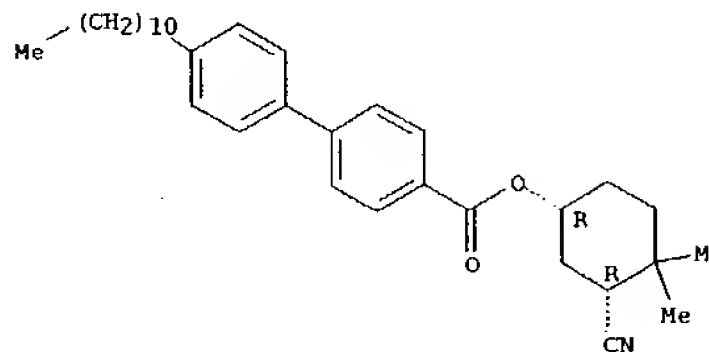
RN 161122-70-9 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-undecyl-, 3-cyano-4,4-dimethylcyclohexyl ester, cis-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

L9 ANSWER 386 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

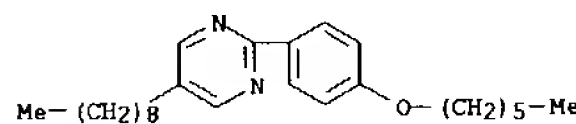
CRN 161122-68-5
 CMF C33 H45 N O2

Relative stereochemistry.



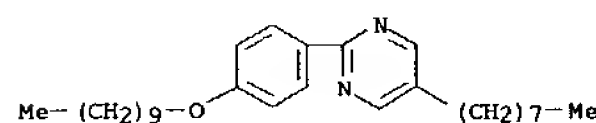
CM 2

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 3

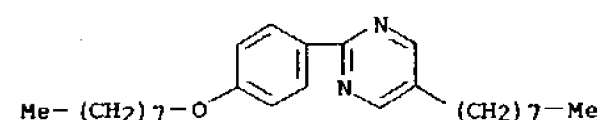
CRN 57202-52-5
 CMF C28 H44 N2 O



CM 4

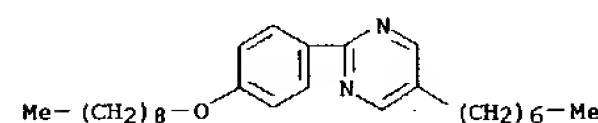
CRN 57202-50-3
 CMF C26 H40 N2 O

L9 ANSWER 386 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



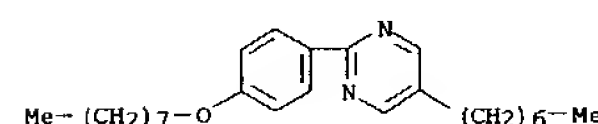
CM 5

CRN 57202-40-1
 CMF C26 H40 N2 O



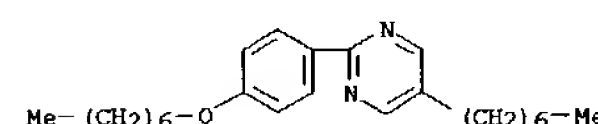
CM 6

CRN 57202-39-8
 CMF C25 H38 N2 O



CM 7

CRN 57202-38-7
 CMF C24 H36 N2 O



L9 ANSWER 387 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:374069 CAPLUS
 DOCUMENT NUMBER: 122:290805
 TITLE: 4-Aryl-5-(2-pyrimidinyl)-1,4-dihydropyrimidines, -1,4-dihydropyrimidines, and -1,2,3,4-tetrahydropyrimidines

AUTHOR(S): Vishnevsky, S. G.; Boldyreva, L. K.; Romanenko, E. A.; Remennikov, G. Ya.
 CORPORATE SOURCE: Inst. Bioorg. Khim. Neftekhim., Kiev, Ukraine
 SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1994), (5), 679-85

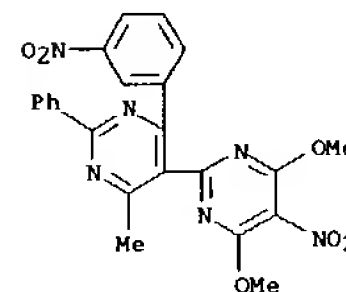
CODEN: KGSSAQ; ISSN: 0132-6244
 PUBLISHER: Latvian Institute of Organic Synthesis
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

AB The title compds. were prepared from 2-acetonil-4,6-dimethoxypyrimidines via cyclocondensation reactions.

IT 162851-34-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 162851-34-5 CAPLUS

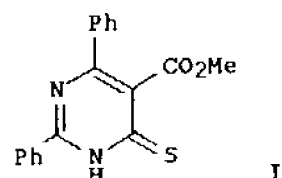
CN 2,5'-Bipyrimidine, 4,6-dimethoxy-4'-methyl-5-nitro-6'-(3-nitrophenyl)-2'-phenyl- (9CI) (CA INDEX NAME)



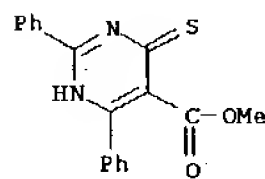
9/811, 359

09/ 835, 523

L9 ANSWER 388 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:357587 CAPLUS
 DOCUMENT NUMBER: 124:55900
 TITLE: Regioselective synthesis of pyrimidines from ketene dithioacetals or alkoxyethylene compounds
 AUTHOR(S): Lorente, Antonio; Vaquerizo, Laura; Martin, Avelino; Gomez-Sal, Pilar
 CORPORATE SOURCE: Dep. Org. Chem., Univ. Alcala, Alcala de Henares, 28871, Spain
 SOURCE: Heterocycles (1995), 41(1), 71-86
 CODEN: HETCYM; ISSN: 0385-5414
 PUBLISHER: Japan Institute of Heterocyclic Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



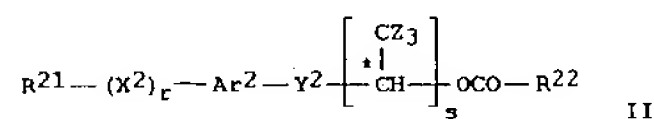
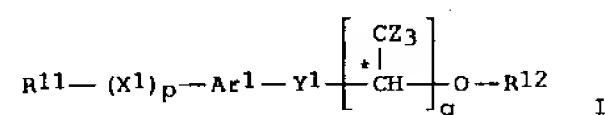
AB Regioselective cyclizations of the condensation products obtained by the reaction of nitrogen nucleophiles with ketene dithioacetals or alkoxyethylene compds. gave pyrimidine derivs. e.g. I. Stereoelectronic factors or geometry of the carbon-carbon double bond determine the regioselectivity of heterocyclization processes.
 IT 162709-53-7P
 RL: SPN (Synthetic preparation); PREP (Preparation) (regioselective synthesis of pyrimidines from ketene dithioacetals or alkoxyethylene compds.)
 RN 162709-53-7 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 1,4-dihydro-2,6-diphenyl-4-thioxo-, methyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 389 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:346773 CAPLUS
 DOCUMENT NUMBER: 122:119181
 TITLE: Ferroelectric chiral smectic liquid crystal composition with superior response to electric field
 INVENTOR(S): Sekine, Chizu; Tani, Takeshi; Ueda, Kayoko; Fujisawa, Koichi; Azumai, Takayuki; Toda, Shoji; Minamii, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
 CODEN: JKCCXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

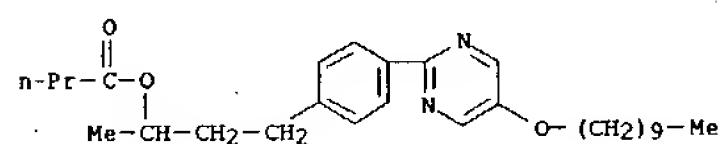
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06200252 | A2 | 19940719 | JP 1992-361607 | 19921228 |
| PRIORITY APPLN. INFO.: | | | JP 1992-361607 | 19921228 |

GI

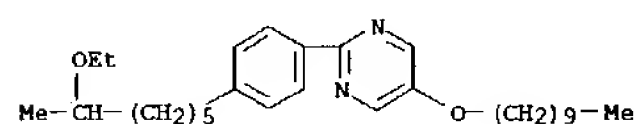


AB The title composition contains ≥1 compound selected from each I and II (R11, R21 = C1-15 alkyl; R12, R22 = (halo substituted) C1-10 alkyl, C2-10 alkoxyalkyl; X1, X2 = O, COO, OCO; Ar1, Ar2 = combination of Ph and pyrimidinyl; Z = H, F, p, q, r, s = 0, 1; Y1, Y2 = (CH2)m, CH:CH(CH2)n (m = 1-10 and n = 0-8 when q, s = 1; m = 2-10 and n = 1-8 when q, s = 0); * represents asym. atom), wherein the incorporation ratio of I : II is in the range of 5:95 - 95:5. Liquid crystal device using the above liquid crystal composition is also claimed.
 IT 160803-84-9
 RL: DEV (Device component use); USES (Uses) (ferroelec. chiral smectic liquid crystal composition used for liquid crystal device)
 RN 160803-84-9 CAPLUS
 CN Butanoic acid, 3-[4-[5-(decyloxy)-2-pyrimidinyl]phenyl]-1-methylpropyl ester, mixt. with 5-(decyloxy)-2-[4-(6-ethoxyheptyl)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 160803-83-8
 CMF C28 H42 N2 O3

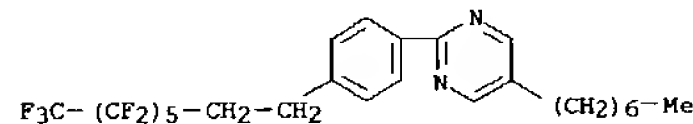
L9 ANSWER 389 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2
 CRN 157790-13-1
 CMF C29 H46 N2 O2



L9 ANSWER 390 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:336043 CAPLUS
 DOCUMENT NUMBER: 122:227484
 TITLE: X-ray study of the correlations in the thermal fluctuations of free-standing smectic-A films
 AUTHOR(S): Shindler, J. D.; Mol, E. A. L.; Shalaginov, A.; de Jeu, W. H.
 CORPORATE SOURCE: Stichting voor Fundamenteel Onderzoek der Materie, Institute for Atomic and Molecular Physics, Amsterdam, 1098 SJ, Neth.
 SOURCE: Physical Review Letters (1995), 74(5), 722-25
 CODEN: PRLTAA; ISSN: 0031-9007
 PUBLISHER: American Physical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The 1st quant. exptl. study is reported of the displacement-displacement correlations in the thermal fluctuations of freely suspended smectic-A films, performed by combining specular and diffuse x-ray scattering. The authors are able to sep. the long wavelength thermal fluctuations from the local smectic disorder, and obtain a direct measure of the smectic bend and compression elastic consts. as well as the surface tension. The local contribution to the total fluctuation profile is considerable. The results are well described by the theory of Holyst [Phys. Rev. A 44, 3692(1991)].
 IT 162104-82-7
 RL: PEP (Physical, engineering or chemical process); PROC (Process) (x-ray study of correlations in thermal fluctuations of free-standing smectic-A liquid crystal films of)
 RN 162104-82-7 CAPLUS
 CN Pyrimidine, 5-heptyl-2-[4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)phenyl]- (9CI) (CA INDEX NAME)



09/ 835,523

9/811,359

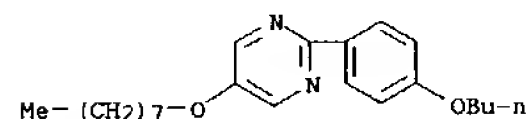
L9 ANSWER 391 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:324514 CAPLUS
 DOCUMENT NUMBER: 122:92962
 TITLE: Trifluorophenylene derivatives and their use in liquid-crystal mixtures and electrooptical devices
 INVENTOR(S): Wingen, Rainer; Pfirrmann, Ralf
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Eur. Pat. Appl., 79 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------|------|----------|-----------------|----------|
| EP 602596 | A1 | 19940622 | EP 1993-120134 | 19931214 |
| EP 602596 | B1 | 19971105 | | |
| R: CH, DE, FR, GB, LI | | | | |
| JP 06263662 | A2 | 19940920 | JP 1993-318520 | 19931217 |
| US 5525258 | A | 19960611 | US 1995-425260 | 19950418 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | DE 1992-4242695 | 19921217 |
| | | | DE 1993-4320755 | 19930623 |
| | | | US 1993-168053 | 19931215 |
| OTHER SOURCE(S): MARPAT 122:92962 | | | | |
| GI | | | | |

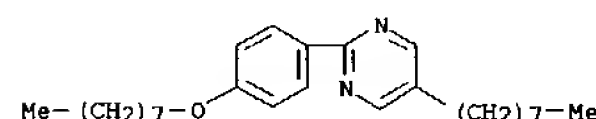
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The compds. have the general formula I, where II and III are mesogenic groups.
 IT 160309-82-0
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal mixture for electrooptical devices)
 RN 160309-82-0 CAPLUS
 CN Pyrimidine, 2-(4-butoxyphenyl)-5-(octyloxy)-, mixt. with 2-[4-(decyloxy)phenyl]-5-(octyloxy)pyrimidine, 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-(octyloxy)pyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-(octyloxy)-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

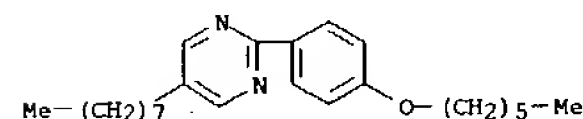
CM 1
 CRN 121083-89-4
 CMF C22 H32 N2 O2



L9 ANSWER 391 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C26 H40 N2 O

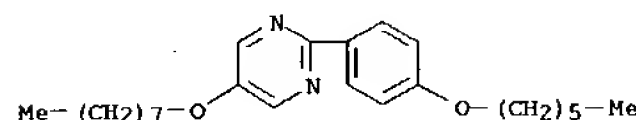


CM 7
 CRN 57202-48-9
 CMF C24 H36 N2 O

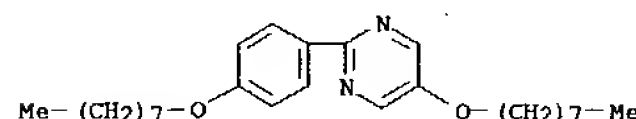


L9 ANSWER 391 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

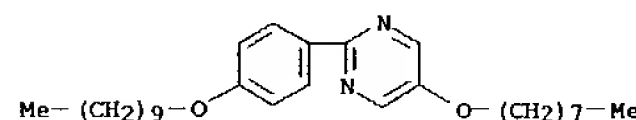
CM 2
 CRN 120091-49-8
 CMF C24 H36 N2 O2



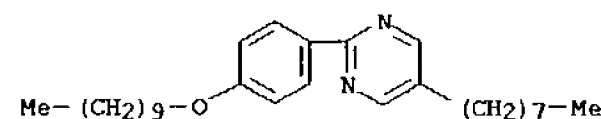
CM 3
 CRN 114767-84-9
 CMF C26 H40 N2 O2



CM 4
 CRN 114415-28-0
 CMF C28 H44 N2 O2



CM 5
 CRN 57202-52-5
 CMF C28 H44 N2 O



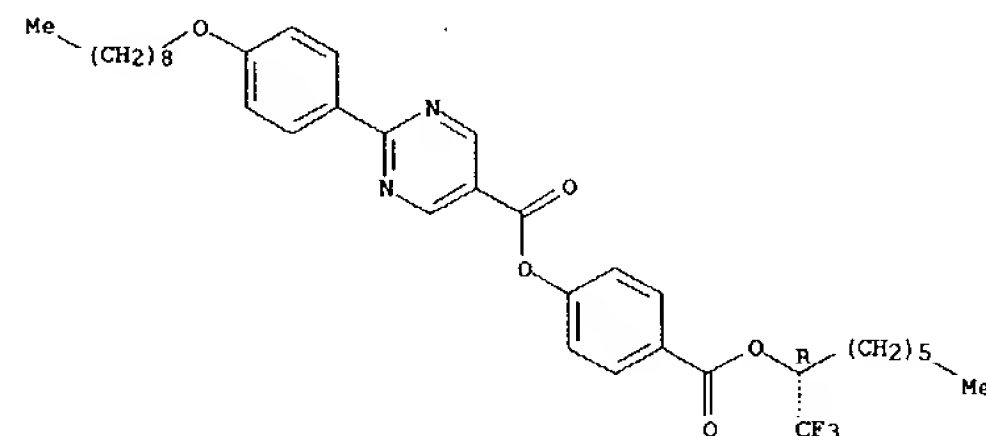
CM 6
 CRN 57202-50-3

L9 ANSWER 392 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:315677 CAPLUS
 DOCUMENT NUMBER: 122:93006
 TITLE: Antiferroelectric liquid crystal composition for displays
 PATENT ASSIGNEE(S): Showa Shell Sekiyu K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 4
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06186518 | A2 | 19940708 | JP 1993-140088 | 19930519 |
| US 5262086 | A | 19931116 | US 1992-903953 | 19920626 |
| US 5424005 | A | 19950613 | US 1992-906470 | 19920630 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | US 1992-903953 | 19920626 |
| | | | US 1992-906470 | 19920630 |
| | | | JP 1988-21159 | 19880202 |
| | | | JP 1988-21160 | 19880202 |
| | | | US 1989-305127 | 19890202 |
| | | | JP 1989-143472 | 19890606 |
| | | | US 1990-533813 | 19900606 |
| | | | US 1991-785877 | 19911104 |
| | | | US 1992-875609 | 19920429 |

OTHER SOURCE(S): MARPAT 122:93006
 AB The title liquid crystal composition contains ≥ 1 antiferroelec. liquid crystal compds. and has optical purity sufficient to give a hysteresis curve steepness ≤ 1.4 , and memory margin ≥ 1 .
 IT 160535-02-4P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (antiferroelec.; liquid crystal compns. for displays containing)
 RN 160535-02-4 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 2-[4-(nonyloxy)phenyl]-, 4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



9/811, 359

09/ 835,523

L9 ANSWER 392 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 393 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:315550 CAPLUS
 DOCUMENT NUMBER: 122:92959
 TITLE: Chiral smectic liquid crystal composition and LCD using same
 INVENTOR(S): Nohira, Hiroyuki; Aoki, Yoshio; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06116562 | A2 | 19940426 | JP 1992-288189 | 19921005 |
| JP 2881079 | B2 | 19990412 | | |

PRIORITY APPLN. INFO.: JP 1992-288189 19921005

AB The title composition comprises an optically active compound, R1-X1-A1-(A2)m-(A3)n-X2-CH2C*(CF3)H-C6H4-OR2 [R1,2 = C1-18 alkyl; X1 = single bond, O, CO, COO, OOC; X2 = OCH2, OOC; A1-3 = C6H10, phenylene, N-containing aromatic]. The LCD using the composition was also claimed.

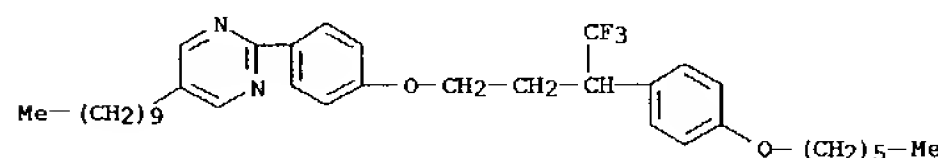
IT 160506-95-6
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (chiral smectic liquid crystal composition containing optically active substance and LCD using same)

RN 160506-95-6 CAPLUS

CN Cyclohexanecarboxylic acid, 4-butyl-, 4-(5-dodecyl-2-pyrimidinyl)phenyl ester, trans-, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-decyl-2-[4-[4,4,4-trifluoro-3-[4-(hexyloxy)phenyl]butoxy]phenyl]pyrimidine, 2-[4-(dodecyloxy)phenyl]-5-hexylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 160506-94-5
 CMF C36 H49 F3 N2 O2

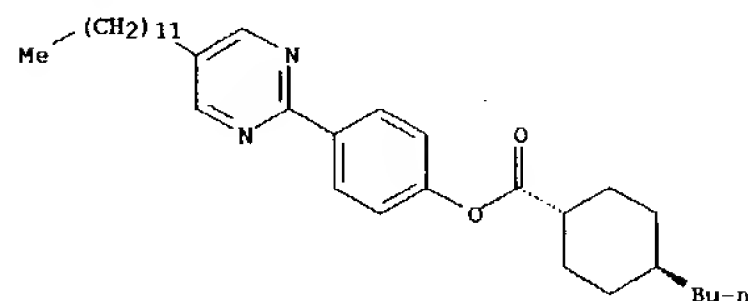


CM 2

CRN 122893-56-5
 CMF C33 H50 N2 O2

L9 ANSWER 393 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

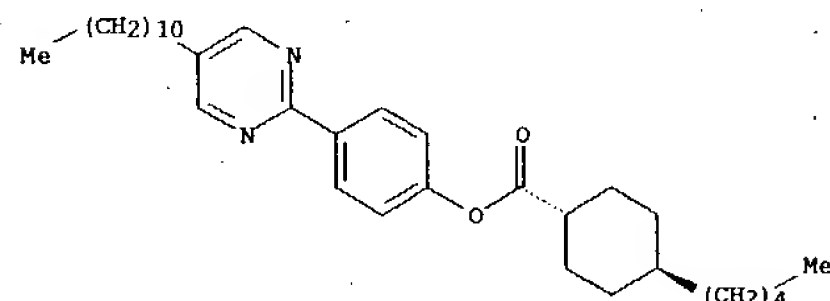
Relative stereochemistry.



CM 3

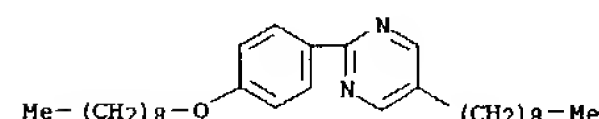
CRN 121083-94-1
 CMF C33 H50 N2 O2

Relative stereochemistry.



CM 4

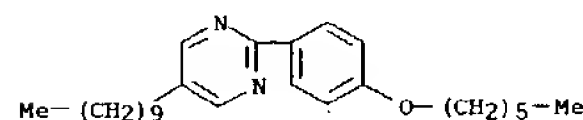
CRN 99895-85-9
 CMF C28 H44 N2 O



CM 5

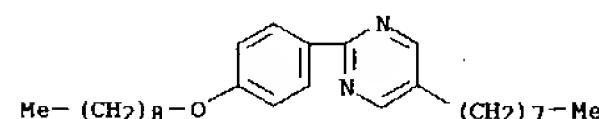
CRN 57202-60-5
 CMF C26 H40 N2 O

L9 ANSWER 393 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



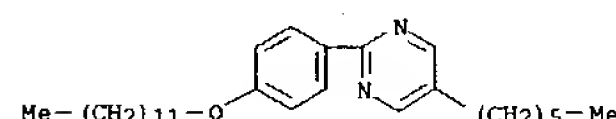
CM 6

CRN 57202-51-4
 CMF C27 H42 N2 O



CM 7

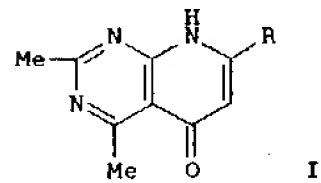
CRN 57202-32-1
 CMF C28 H44 N2 O



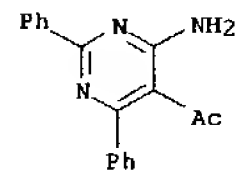
9/811, 357

09/ 835, 523

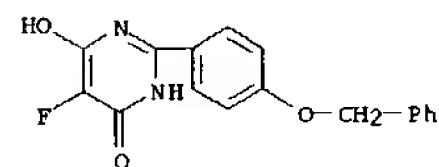
L9 ANSWER 394 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:315226 CAPLUS
 DOCUMENT NUMBER: 122:160592
 TITLE: Effective syntheses of pyrido[2,3-d]pyrimidin-5-ones from 5-acetyl-4-aminopyrimidines
 AUTHOR(S): Komkov, A. V.; Ugrak, B. I.; Bogdanov, V. S.; Dorokhov, V. A.
 CORPORATE SOURCE: N. D. Zelinsky Inst. Org. Chem., Moscow, 117913, Russia
 SOURCE: Izvestiya Akademii Nauk, Seriya Khimicheskaya (1994), (8), 1469-74
 CODEN: IASKEA
 PUBLISHER: Institut Organicheskoi Khimii im. N. D. Zelinskogo Rossiiskoi Akademii Nauk
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 OTHER SOURCE(S): CASREACT 122:160592
 GI



AB New methods of pyridine ring annelation to pyrimidine were suggested. 2,4-Disubstituted 8H-pyrido[2,3-d]pyrimidin-5-ones, e.g., I (R = H), were synthesized by reaction of 2,6-disubstituted 5-acetyl-4-aminopyrimidines with DMF or dimethylacetamide acetals, followed by cyclization by treatment with sodium methoxide in methanol. 2,4-Disubstituted 7-phenyl-8H-pyrido[2,3-d]pyrimidin-5-ones, e.g., I (R = Ph) were obtained by reaction of 2,6-disubstituted 5-acetyl-4-benzamidopyrimidines with sodium methoxide in boiling methanol.
 IT 161465-87-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of pyridopyrimidinones from acetylamino pyrimidines)
 RN 161465-87-8 CAPLUS
 CN Ethanone, 1-(4-amino-2,6-diphenyl-5-pyrimidinyl)- (9CI) (CA INDEX NAME)



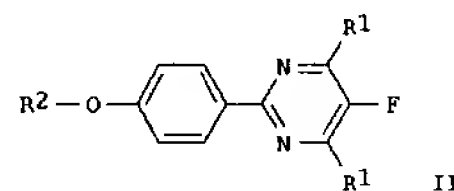
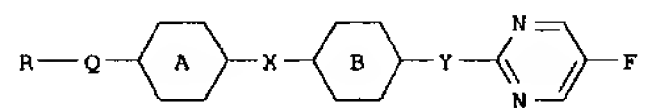
L9 ANSWER 395 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 395 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:308742 CAPLUS
 DOCUMENT NUMBER: 122:81393
 TITLE: Preparation of 5-fluoro-2-substituted pyrimidines for liquid crystals
 INVENTOR(S): Kawada, Mitsuru; Uesugi, Yoshitaka; Yamashita, Toshiro; Terao, Hiroshi; Kondo, Katsumi; Uchiumi, Juka; Oohara, Shuichi
 PATENT ASSIGNEE(S): Takeda Chemical Industries Ltd, Japan; Hitachi Ltd
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|--------------------------------------|-----------------|----------|
| JP 06239839 | A2 | 19940830 | JP 1993-26915 | 19930216 |
| PRIORITY APPLN. INFO.: | | JP 1993-26915 19930216 | | |
| OTHER SOURCE(S): | | CASREACT 122:81393; MARPAT 122:81393 | | |

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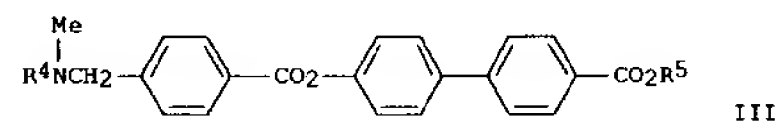
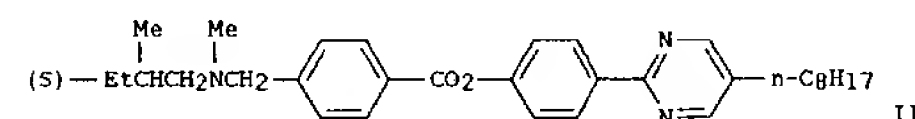


AB The title compds. [I: R = C1-10 alkyl; Q = bond, O, S, C(O)O, C(O)S; A, B = bond, one or two units of 1,4-cyclohexylene or 1,4-phenylene; X, Y = bond, C(O)O, C(O)S, CH2-O] are prepared. Thus, the fluoropyrimidine II [R1 = OH, R2 = benzyl] (preparation from di-Me fluoromalonate and 4-(benzyloxy)benzamide hydrochloride given) was chlorinated, the resulting II [R1 = Cl, R2 = benzyl] was hydrogenolyzed over palladium/C, and the resulting II [R1 = R2 = H] was reacted with amyl bromide in DM50 containing NaH to give the title compound II [R1 = H, R2 = pentyl]. I are stable and remain in liquid phase over a wide range of nematic temps.; therefore they are suitable components for liquid crystal compns. Five liquid crystal compns. are described.
 IT 160415-79-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate in preparation of 5-fluoro-2-substituted pyrimidines for liquid crystals)
 RN 160415-79-2 CAPLUS
 CN 4(1H)-Pyrimidinone, 5-fluoro-6-hydroxy-2-[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)

L9 ANSWER 396 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:308707 CAPLUS
 DOCUMENT NUMBER: 122:93428
 TITLE: Preparation of 4-(aminomethyl)benzoic acid or -cyclohexanecarboxylic acid esters containing pyrimidine rings as liquid crystals
 INVENTOR(S): Watanabe, Takeo; Nishioka, Ayako; Inoe, Osami
 PATENT ASSIGNEE(S): Showa Denko Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 06206852 | A2 | 19940726 | JP 1993-244933 | 19930930 |
| PRIORITY APPLN. INFO.: | | JP 1992-261629 19920930 | | |
| OTHER SOURCE(S): | | MARPAT 122:93428 | | |

GI



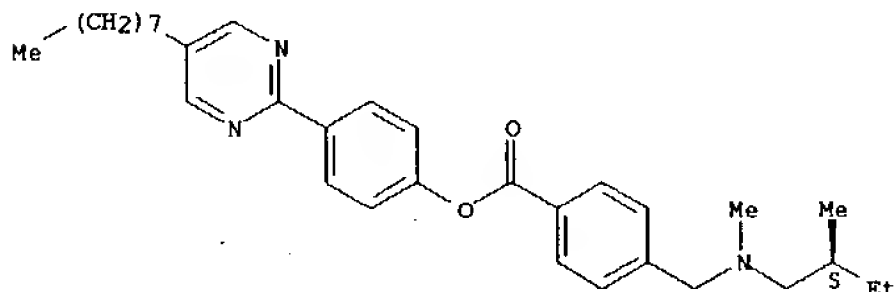
AB R1R2NCH2X1CO2X2X3(O)nR3 (I: R1, R3 = C1-18 linear or branched alkyl optionally substituted by ≥1 halogen atoms; R2 = H, Me, Et; X1 = 1,4-phenylene, 1,4-cyclohexylene; X2, X3 = 1,4-phenylene, 2,5- or 5,2-pyrimidinylidene; at least one of X2 and X3 = 2,5- or 5,2-pyrimidinylidene; n = 0,1) are prepared by esterification of carboxylic acid derivs. R1R2NCH2X1CO2H (R1, R2, X1 = same as above) with HOX2X3(O)nR3 (X2, X3, R3, n = same as above). A liquid crystal composition contains at least one I and a liquid crystal device uses at least one such composition. I show a sequence of incommensurate phases, low m.p., chemical stability, and very stable liquid crystal property over a broad range of temperature. Optically active I also show stable dielec. property over a broad range of temperature and do not have spiral structures. I can be added to a ferroelec. liquid crystal composition without considering the phys. properties such as the orientation of spirals or spontaneous polarization in order and elongate the spiral pitches of chiral smectic C phase. Thus, Me 4-(N-(S)-(2-methylbutyl)-N-methylamino)methylbenzoate hydrochloride was dissolved in CH2Cl2 followed by adding DCC, 5-octyl-2-(4-hydroxyphenyl)pyrimidine, and 4-pyrrolidinopyridine and the resulting mixture was stirred overnight at room temperature to give pyrimidinylphenyl (aminomethyl)benzoate derivative (II). II showed the cholesteric phase-chiral smectic C phase transition at 42°. A liquid crystal composition containing 50 weight% biphenyl 4-(aminomethyl)benzoate derivative (III: R4 = R5 = n-pentyl) and 50 weight% III (R4 = Me2CHCH2CH2, R5 = C9H19) showed the smectic C phase-nematic phase transition at 66°.
 IT 160408-50-4P

9/811, 359

09/ 835, 523

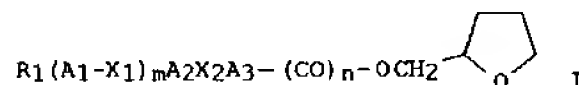
L9 ANSWER 396 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (prepn. of (aminomethyl)benzoic acid or -cyclohexanecarboxylic acid
 esters contg. pyrimidine rings as liq. crystals for displays)
 RN 160408-50-4 CAPLUS
 CN Benzoic acid, 4-[[methyl(2-methylbutyl)amino]methyl]-,
 4-(5-octyl-2-pyrimidinyl)phenyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 397 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:302856 CAPLUS
 DOCUMENT NUMBER: 122:68879
 TITLE: Preparation of optically active 2-(hydroxymethyl)tetrahydropyran ethers and esters, liquid crystal composition containing them, and liquid crystal device and display apparatus
 INVENTOR(S): Nakazawa, Ikuo; Nakamura, Shinichi; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Yamada, Yoko
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 87 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 06239849 | A2 | 19940830 | JP 1993-26808 | 19930216 |
| PRIORITY APPLN. INFO.: | | JP 1993-26808 19930216 | | |
| OTHER SOURCE(S): | | MARPAT 122:68879 | | |

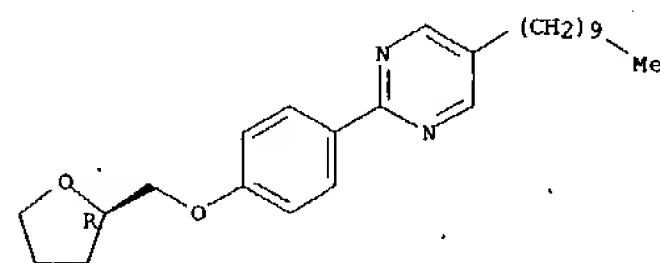


AB The title compds. [I; R1 = H, halo, cyano, C1-18 linear or branched alkyl in which nonadjacent ≥ 2 CH2 groups may be replaced with Y, YC(O), C(O)Y, CO, CWH, OCO2, CH:CH, or C.tplbond.C; wherein Y = O or S; W = halo, CF3, cyano; m, n = 0, 1; A1, A2, A3 = 1,4-cyclohexylene, 2,5- or 5,2-pyrimidinediyl, 2,6-naphthylene, 2,5-thienylene, 2,5- or 5,2-thiazolediyl, 1,3,4-thiadiazole-2,5-diyl, Q = P1,P2-p-phenylene, Q1 = Q 2 = indole with ring C substituted by X; wherein P1, P2 = H, halo, Me, CF3, or cyano; X = O or S; X1, X2 = single bond, CO2, O2C, CH2O, OCH2; * denotes the chiral center] are prepared. A chiral smectic liquid crystal composition contains optically active compound I. A liquid crystal device comprises above liquid crystal composition placed between a pair of electrode substrates each having an orientation control layer. Thus, reduction of (R)-(+)-tetrahydrofuran-2-carboxylic acid (II; R = CO2H) by LiAlH4 in THF at 50° for 3 h to alc. II (R = HOCH2) followed by tosylation with p-toluenesulfonyl chloride in pyridine/CH2Cl2 at room temperature gave tosylate II (R = p-MeC6H4SO2OCH2) (III). Treatment of 5-decyl-2-(p-hydroxyphenyl)pyrimidine with NaH in DMF at room temperature followed by condensation with III at 100° for 3 h gave 45% title compound II (R = 5-decylpyrimid-2-yl-p-phenyleneoxymethyl-) (IV). IV showed a transition from isotropic to smectic phase at 48.5°. A liquid crystal composition containing 10 weight% IV exhibited a transition from chiral smectic C to smectic A phase at 51.3° and showed electrooptical response speed 236 μ s/cm2 and spontaneous polarization 2.9 nC/cm2 in a liquid crystal cell.

IT 160316-23-4P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)

L9 ANSWER 397 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 (prepn. of optically active 2-(hydroxymethyl)tetrahydrofuran ethers and esters as liq. crystals for displays)
 RN 160316-23-4 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(tetrahydro-2-furanyl)methoxy]phenyl]-, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 398 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:302819 CAPLUS
 DOCUMENT NUMBER: 122:68462
 TITLE: Ferroelectric liquid crystal media and their use in electrooptical switches and displays
 INVENTOR(S): Suermann, Juliane; Finkenzeller, Ulrich; Kompter, Michael
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|--------------------------|-----------------|----------|
| DE 4306570 | A1 | 19940908 | DE 1993-4306570 | 19930303 |
| PRIORITY APPLN. INFO.: | | DE 1993-4306570 19930303 | | |
| OTHER SOURCE(S): | | MARPAT 122:68462 | | |

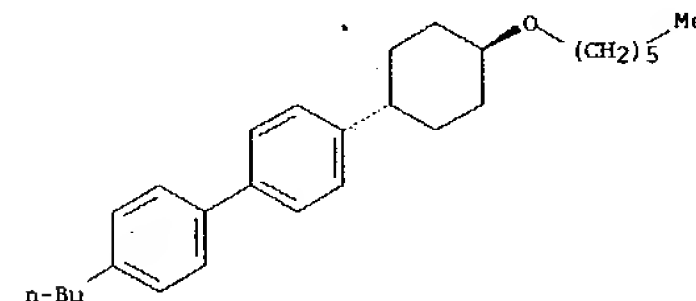
AB The media, having the phase sequence isotropic, cholesteric, smectic A (SmA), and chiral smectic C (SmC*), comprise a base material having a broad SmC phase and ≥ 1 chiral dopant, whereby the SmA phase has a range of < 1 K.

IT 160311-96-6
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal for electrooptical devices)
 RN 160311-96-6 CAPLUS
 CN Pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonyl-, mixt. with trans-4-butyl-4'-[4-(hexyloxy)cyclohexyl]-1,1'-biphenyl, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CH 1

CRN 160311-95-5
 CMF C28 H40 O

Relative stereochemistry.



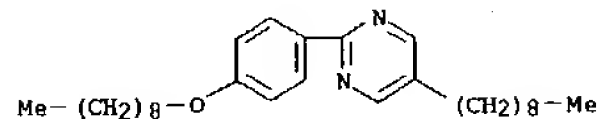
CH 2

CRN 99895-85-9
 CMF C28 H44 N2 O

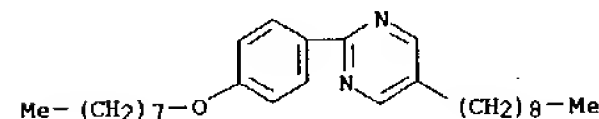
9/811, 359

09/ 835, 523

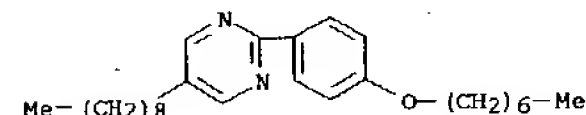
L9 ANSWER 398 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



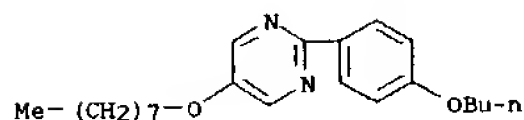
CM 3

CRN 57202-58-1
CMF C27 H42 N2 O

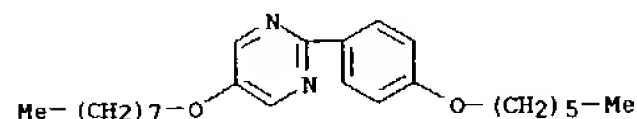
CM 4

CRN 57202-57-0
CMF C26 H40 N2 O

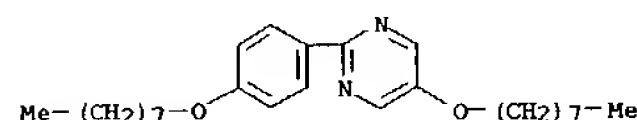
L9 ANSWER 399 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



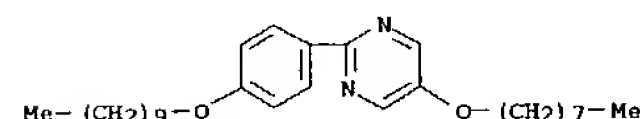
CM 2

CRN 120091-49-8
CMF C24 H36 N2 O2

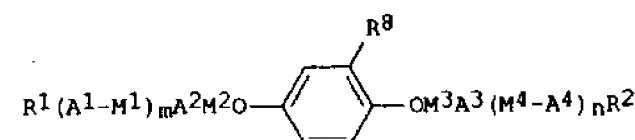
CM 3

CRN 114767-84-9
CMF C26 H40 N2 O2

CM 4

CRN 114415-28-0
CMF C28 H44 N2 O2L9 ANSWER 399 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:302746 CAPLUS
DOCUMENT NUMBER: 122:92968TITLE: Alkyl-substituted hydroquinone derivatives and ferroelectric liquid-crystal mixtures and electrooptical devices containing them
INVENTOR(S): Hornung, Barbara; Jungbauer, Dietmar; Manero, Javier
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Eur. Pat. Appl., 33 pp.
CODEN: EPXXDWDOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

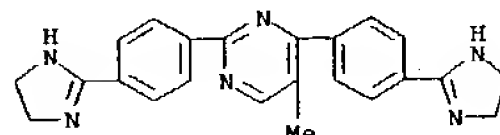
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------|------|----------|-----------------|----------|
| EP 603786 | A2 | 19940629 | EP 1993-120516 | 19931220 |
| EP 603786 | A3 | 19940817 | | |
| R: DE, FR, GB | | | | |
| JP 06228559 | A2 | 19940816 | JP 1993-324312 | 19931222 |
| PRIORITY APPLN. INFO.: DE 1992-4243705 19921223 | | | | |
| OTHER SOURCE(S): MARPAT 122:92968 | | | | |
| GI | | | | |



AB The compds. have the general formula I, where R8 = H, Br, Cl, F, NO2, SCN, OCN, or C1-16 alkyl in which ≥1 CH2 group may be replaced by O or CH:CH and/or ≥1 H may be replaced by F or Cl; and R1[A1M1]mA2M2 and M3A3[M4A4]nR2 are mesogenic groups. These compds. induce nematic phases even in small amts., but leave the important properties of the chiral smectic C phase, e.g. viscosity and operating angle, practically unchanged.

IT 160309-80-8
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(ferroelec. liquid crystal for electrooptical devices)
RN 160309-80-8 CAPLUS
CN Pyrimidine, 2-(4-butoxyphenyl)-5-(octyloxy)-, mixt. with 2-[4-(decyloxy)phenyl]-5-(octyloxy)pyrimidine, 2-[4-(hexyloxy)phenyl]-5-(octyloxy)pyrimidine and 5-(octyloxy)-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 121083-89-4
CMF C22 H32 N2 O2L9 ANSWER 400 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:301514 CAPLUS
DOCUMENT NUMBER: 122:71375TITLE: Dicationic 2,4-diaryl pyrimidines as DNA selective binding agents
AUTHOR(S): Kumar, Arvind; Zhao, Min; Wilson, W. David; Boykin, David W.
CORPORATE SOURCE: Department of Chemistry, Georgia State Univ., Atlanta, GA, 30303, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (1994), 4(24), 2913-18
CODEN: BMCLEB; ISSN: 0960-894XPUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A series of twelve 2,4-diaryl pyrimidines were synthesized. The interaction of these mols. with DNA was evaluated by study of their binding to the DNA duplex polymer poly dA-poly dT and the analogous RNA duplex polymer poly A-poly U which serves as a control for binding to non-specific nucleic acid sites.
IT 160522-95-2P
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(dicationic 2,4-diaryl pyrimidines as DNA selective binding agents in relation to structure)RN 160522-95-2 CAPLUS
CN Pyrimidine, 2,4-bis[4-(4,5-dihydro-1H-imidazol-2-yl)phenyl]-5-methyl- (9CI) (CA INDEX NAME)

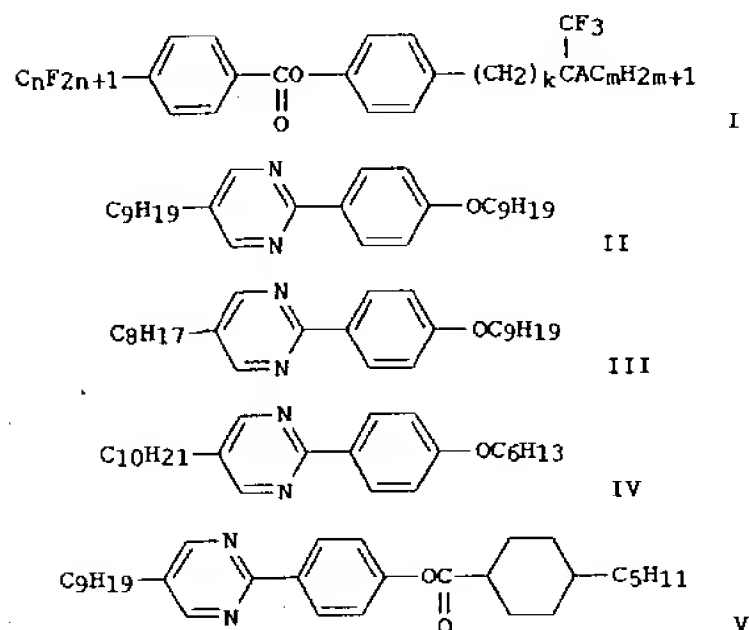
9/811, 359

09/835,523

L9 ANSWER 401 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:293797 CAPLUS
 DOCUMENT NUMBER: 122:68407
 TITLE: Smectic liquid crystal composition for displays
 INVENTOR(S): Nohira, Hiroyuki; Sakaigawa, Akira
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------|------|------------------|-----------------|----------|
| JP 06158048 | A2 | 19940607 | JP 1992-134425 | 19920428 |
| PRIORITY APPL. INFO.: | | | JP 1992-134425 | 19920428 |
| OTHER SOURCE(S): | | MARPAT 122:68407 | | |

GI



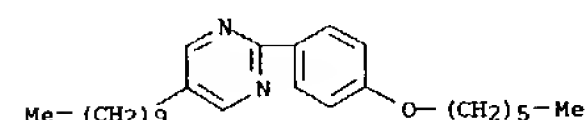
AB The title liquid crystal composition comprises I [k = 1, 2; m = 1-20; n = 1-20] and a host smectic liquid crystal composition based on 21 selected from II-V. The title composition is useful in optical printer heads, displays, optical Fourier transform devices, light valves, etc.

IT 160189-33-3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (chiral smectic liquid crystal composition for fast-response optical devices)

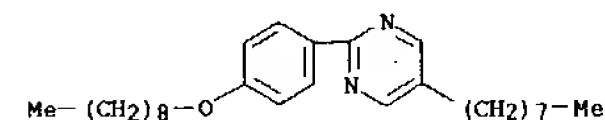
RN 160189-33-3 CAPLUS

CN Benzoic acid, 4-(tridecafluorohexyl)-, 4-[3-(trifluoromethyl)nonyl]phenyl ester, mixt. with 5-decyl-2-[4-(hexyloxy)phenyl]pyrimidine,

L9 ANSWER 401 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C26 H40 N2 O



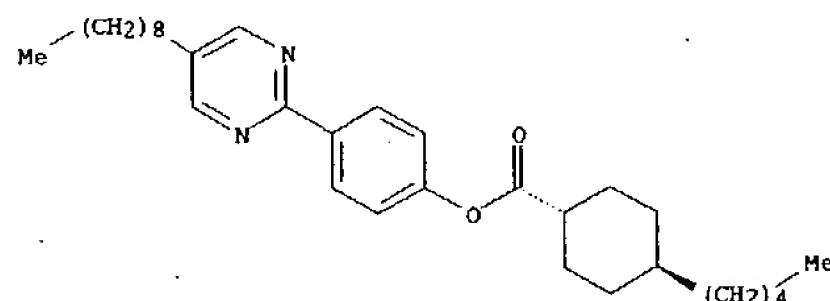
CM 5
 CRN 57202-51-4
 CMF C27 H42 N2 O



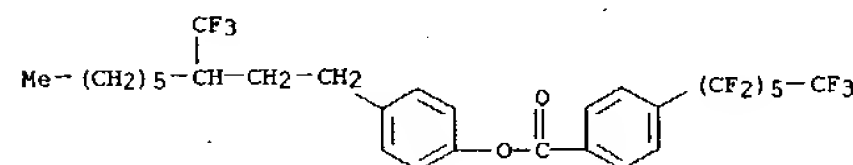
L9 ANSWER 401 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and trans-4-(5-nonyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate (9CI) (CA INDEX NAME)

CM 1
 CRN 160189-32-2
 CMF C31 H46 N2 O2

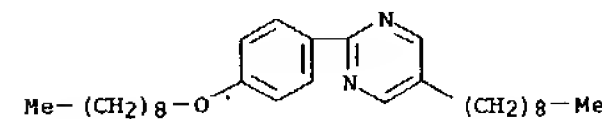
Relative stereochemistry.



CM 2
 CRN 160189-31-1
 CMF C29 H26 F16 O2



CM 3
 CRN 99895-85-9
 CMF C28 H44 N2 O

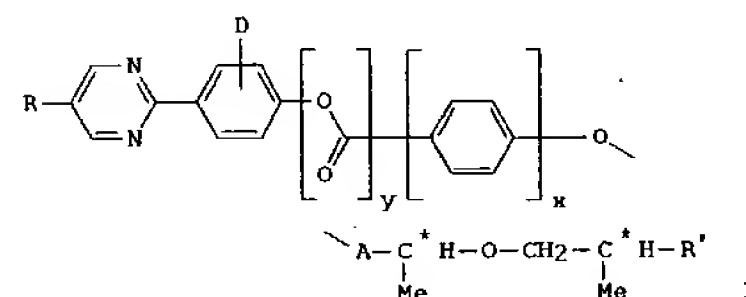


CM 4
 CRN 57202-60-5

L9 ANSWER 402 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:278350 CAPLUS
 DOCUMENT NUMBER: 122:174658
 TITLE: Ferroelectric liquid crystals containing pyrimidine and chiral compounds and liquid crystal compositions containing them
 INVENTOR(S): Tsai, Wen-liang; Kuo, Hwei-long; Sheu, Shih-yiing
 PATENT ASSIGNEE(S): Industrial Technology Research Institute, Taiwan
 SOURCE: U.S., 9 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------|------|-------------------|-----------------|----------|
| US 5366659 | A | 19941122 | US 1994-215525 | 19940322 |
| PRIORITY APPL. INFO.: | | | US 1994-215525 | 19940322 |
| OTHER SOURCE(S): | | MARPAT 122:174658 | | |

GI



AB A liquid crystal composition is described containing an optically active or a ferroelec. liquid crystal compound represented by the following formula I wherein A can be either -CH2- or -CO-; R can be either an alkyl or alkoxy group having 1 to 22 carbons; R' is an alkyl group having 2 to 8 carbons; x and y are integers of either 0 or 1, provided that when x = 0, y ≠ 1; D can be a H or a halogen atom; and the star represents a chiral center. The ferroelec. liquid crystals exhibit optical and chemical stabilities, high-speed responsive, and high spontaneous polarization, and thus are excellent materials for use in making liquid crystal devices and liquid crystal light switching elements.

IT 161188-43-8P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (ferroelec. liquid crystals containing pyrimidine and chiral compds.)

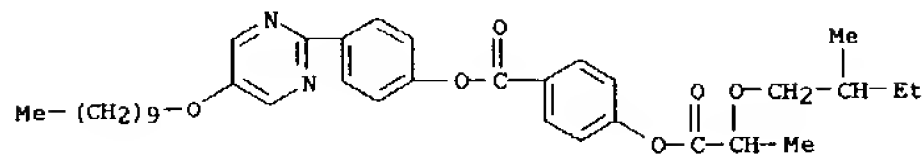
RN 161188-43-8 CAPLUS

CN Benzoic acid, 4-[2-(2-methylbutoxy)-1-oxopropoxy]-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

9/811,359

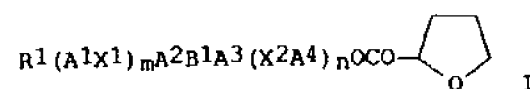
09/ 835,523

L9 ANSWER 402 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

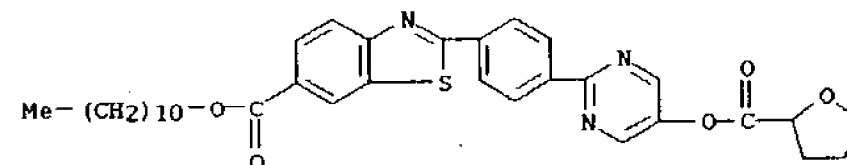


L9 ANSWER 403 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:267011 CAPLUS
 DOCUMENT NUMBER: 122:42864
 TITLE: Optical active compound, liquid-crystal composition and liquid-crystal element using same
 INVENTOR(S): Nakamura, Shinichi; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Yamada, Yoko
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 86 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06145158 | A2 | 19940524 | JP 1992-315557 | 19921102 |
| PRIORITY APPLN. INFO.: | | | JP 1992-315557 | 19921102 |
| GI | | | | |

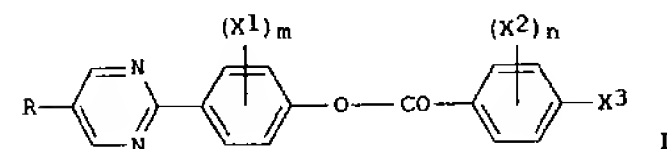


AB The title liquid-crystal composition contains an optical active compound I (R1 = C1-18 alkyl; A1,4 = 1,4-phenylene, 1,4-cyclohexylene, 2,5-pyrimidylene, 2,5-pyridylene, etc.; A2,3 = single bond or same as A1,4; B1 = benzoxazole or benzothiazole ring; X1,2 = single bond, OCO, OCH2, COO, CH2O; m, n = 0, 1). Claimed also is a liquid-crystal element comprising the above liquid-crystal composition enclosed between a pair of electrode substrates.
 IT 159947-55-4P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (liquid-crystal element from)
 RN 159947-55-4 CAPLUS
 CN 6-Benzothiazolecarboxylic acid, 2-[4-[5-[[tetrahydro-2-furanyl]carbonyl]oxy]-2-pyrimidinyl]phenyl]-, undecyl ester (9CI) (CA INDEX NAME)

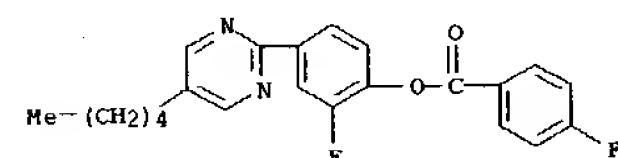


L9 ANSWER 404 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:266997 CAPLUS
 DOCUMENT NUMBER: 122:42863
 TITLE: Liquid-crystal compound and composition, and liquid-crystal display element using same
 INVENTOR(S): Tokano, Goji; Takiguchi, Takao; Iwaki, Takashi; Yamada, Yoko; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

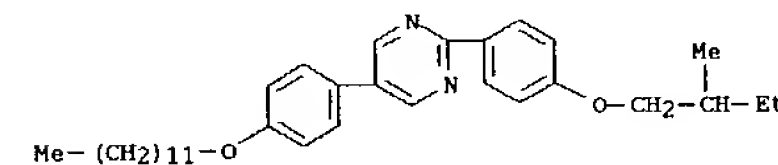
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06128235 | A2 | 19940510 | JP 1992-299100 | 19921013 |
| PRIORITY APPLN. INFO.: | | | JP 1992-299100 | 19921013 |
| GI | | | | |



AB Claimed is a liquid-crystal compound I (R = C1-18 alkyl; X1 = F, Cl, Br, Me, CF3; X2 = F, Cl, Br, Me; X3 = H, F, Cl, Br; m, n = 0 - 4; m + n ≥ 1; n = 0, 1 when X3 = F). The title liquid-crystal element comprises a liquid-crystal composition containing the above compound enclosed between a pair of electrode substrates. Fast response is achieved.
 IT 159946-85-7
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal composition containing)
 RN 159946-85-7 CAPLUS
 CN Benzoic acid, 4-fluoro-, 2-fluoro-4-(5-pentyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 405 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:262985 CAPLUS
 DOCUMENT NUMBER: 122:105803
 TITLE: Mass-spectrometric studies of liquid-crystal compounds. I. Chiral phenylpyridine and phenylpyrimidine liquid crystals
 AUTHOR(S): Qian, Feng; Wu, Wannian; Li, Guozhen
 CORPORATE SOURCE: Analysis Res. Cent., ECUST, Shanghai, 200237, Peop. Rep. China
 SOURCE: Huadong Ligong Daxue Xuebao (1994), 20(5), 673-82
 CODEN: HLIKEV
 PUBLISHER: Huadong Ligong Daxue Xuebao Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Liquid crystal compds. which include diphenylpyridine, diphenylpyrimidine derivs. were analyzed with electron impact (EI) and chemical ionization (CI) mass spectrometry. General fragmentation mechanism of these compds. and mass spectral behavior were discussed in detail.
 IT 160751-76-8
 RL: PRP (Properties)
 (mass spectra of chiral phenylpyridine and phenylpyrimidine liquid crystals)
 RN 160751-76-8 CAPLUS
 CN Pyrimidine, 5-[4-(dodecyloxy)phenyl]-2-[4-(2-methylbutoxy)phenyl]- (9CI) (CA INDEX NAME)



9/811, 359

09/ 835, 523

L9 ANSWER 406 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:261244 CAPLUS
 DOCUMENT NUMBER: 122:252238
 TITLE: Liquid crystal compounds and liquid crystal compositions containing them
 INVENTOR(S): Isozaki, Tadaaki; Mogamiya, Hiroyuki; Aihara, Yoshihiko; Hagiwara, Takashi
 PATENT ASSIGNEE(S): Showa Shell Sekiyu K. K., Japan
 SOURCE: U.S., 15 pp. Cont.-in-part of U.S. Ser. No. 727,250, abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

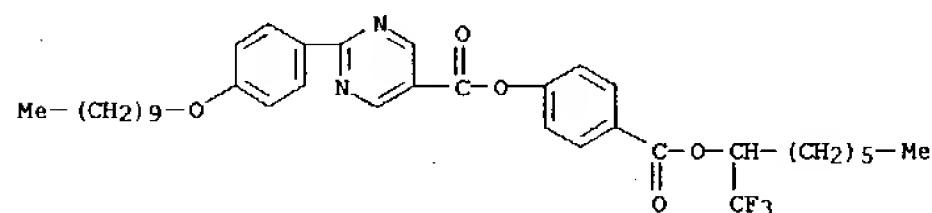
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 5364561 | A | 19941115 | US 1993-52754 | 19930427 |
| PRIORITY APPLN. INFO.: | | | JP 1990-185740 | A 19900713 |
| | | | US 1991-727250 | B2 19910711 |

OTHER SOURCE(S): MARPAT 122:252238
 AB A liquid crystal compound represented by the following formula

$$R1-X-p-C6H4-p-C6H4-CO2-p-C6H4-CO2-R2$$
 [R1, R2 = an alkyl group having 3-20 C atoms, and X = a group -CO2-, -CO-, -O-, or a single bond] and a liquid crystal composition exhibiting optically tristable states comprising the liquid crystal compound represented by the above formula and an antiferroelec. liquid crystal compound. The material shows optically tristable state.

IT 162546-76-1
 RL: DEV (Device component use); USES (Uses)
 (liquid-crystal composition for tristable state)
 RN 162546-76-1 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 2-[4-(decyloxy)phenyl]-, 4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester, mixt. with 4-[(nonyloxy)carbonyl]phenyl 4'-(decyloxy)[1,1'-biphenyl]-4-carboxylate (9CI) (CA INDEX NAME)

CM 1
 CRN 152431-76-0
 CMF C36 H45 F3 N2 O5



CM 2
 CRN 140212-87-9

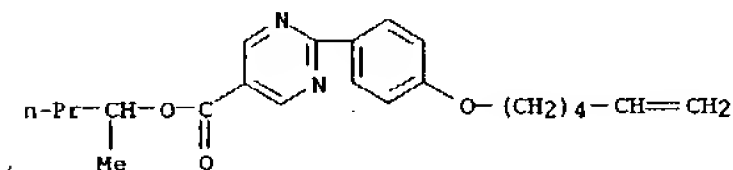
L9 ANSWER 407 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:243920 CAPLUS
 DOCUMENT NUMBER: 122:189830
 TITLE: Ferroelectric liquid crystal compositions containing asymmetric carbon-substituted siloxanes
 INVENTOR(S): Moriwaki, Fumio; Iwakuma, Toshihiro; Nagase, Takamitsu; Hacha, Satoshi
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06264060 | A2 | 19940920 | JP 1993-80312 | 19930316 |
| PRIORITY APPLN. INFO.: | | | JP 1993-80312 | 19930316 |

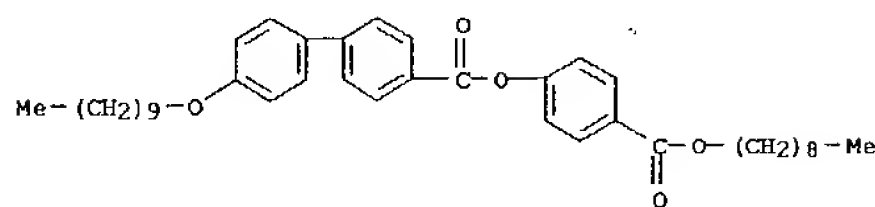
AB Title compns. showing easy orientation, useful for display devices, etc., contain Me-substituted di-Me-siloxanes including asym. C and aromatic carbocycles or heterocycles and low-mol.-weight smectic liquid crystals. Thus, an 80:20 dimethylsilanediol-hydrogenmethylsilanediol copolymer treated by CH2:CH(CH2)6OC6H4C6H4CO2CHMe(CH2)2Me (all p-) and C10H21OC6H4CO2C6H4C6H4CO2CHMePr (all p-) was sandwiched between ITO electrode glasses, oriented at 80°, and charged to 8 ms response at 25°.

IT 161637-05-4DP, reaction products with hydrogen-siloxanes
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (ferroelec. compns. containing low-mol.-weight smectic liquid crystals and asym. carbon-substituted siloxanes for display devices)

RN 161637-05-4 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 2-[4-(5-hexenyloxy)phenyl]-, 1-methylbutyl ester (9CI) (CA INDEX NAME)

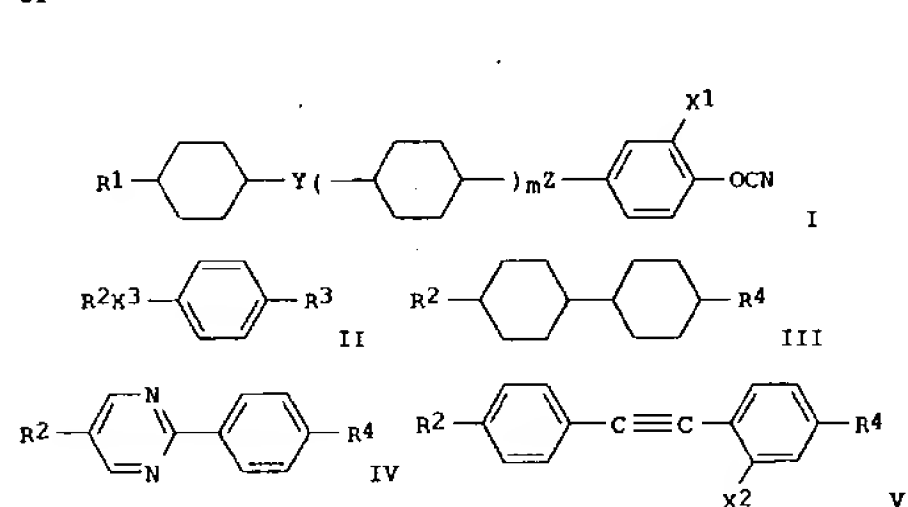


L9 ANSWER 406 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C39 H52 O5



L9 ANSWER 408 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:239901 CAPLUS
 DOCUMENT NUMBER: 122:42861
 TITLE: Nematic liquid crystal composition for twisted nematic and super-twisted nematic LCDs with reduced cross talk
 INVENTOR(S): Takeuchi, Kyobumi; Takatsu, Haruyoshi
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 06108053 | A2 | 19940419 | JP 1992-262131 | 19920930 |
| PRIORITY APPLN. INFO.: | | | JP 1992-262131 | 19920930 |
| OTHER SOURCE(S): | | MARPAT 122:42861 | | |



AB The title composition used for the title LCDs comprises a compound, I [Y = (C2H4)1; Z = (C2H4)n; R1 = C2-7 alkyl, alkenyl; 1, m, n = 0, 1; X1 = H, F] and a compound selected from II, III, IV, and V [R2 = C2-7 alkyl, alkenyl; R3 = C2-7 alkyl, alkoxy, alkenyloxy; R4 = C2-7 linear alkyl, alkoxy, alkoxyalkyl; X2 = Me, H; X3 = C6H10COO, C6H10, C6H10CH2CH2].

IT 159652-26-3
 RL: DEV (Device component use); USES (Uses)
 (nematic liquid crystal composition and super-twisted nematic LCD with reduced cross talk)

RN 159652-26-3 CAPLUS
 CN Cyanic acid, 4-(4'-butyl[1,1'-bicyclohexyl]-4-yl)phenyl ester, [trans(trans)]-, mixt. with trans-4-(4-butylcyclohexyl)phenyl cyanate, 5-butyl-2-(4-ethylphenyl)pyrimidine, 5-ethyl-2-(4-ethylphenyl)pyrimidine, 2-(4-ethylphenyl)-5-propylpyrimidine, [trans(trans)]-4-(4'-propyl[1,1'-bicyclohexyl]-4-yl)phenyl cyanate, trans-4-[2-(4-propylcyclohexyl)ethyl]phenyl cyanate and trans-4-(4-propylcyclohexyl)phenyl cyanate (9CI) (CA INDEX NAME)

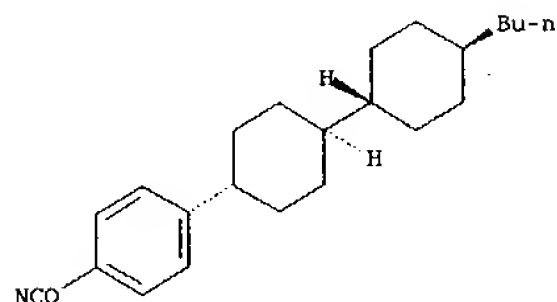
CM 1

9/811, 359

09/ 835, 523

L9 ANSWER 408 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CRN 155266-82-3
CMF C23 H33 N O

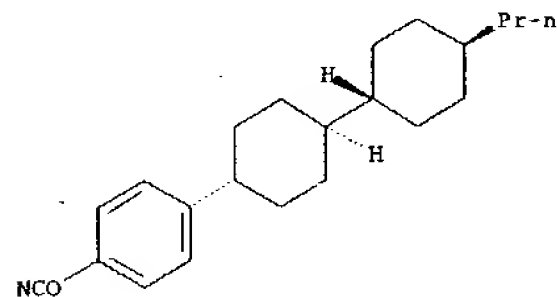
Relative stereochemistry.



CM 2

CRN 155266-81-2
CMF C22 H31 N O

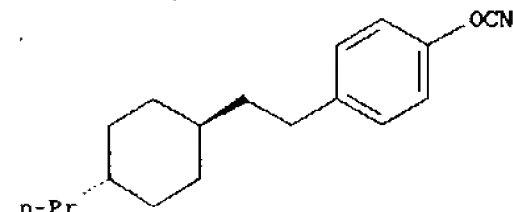
Relative stereochemistry.



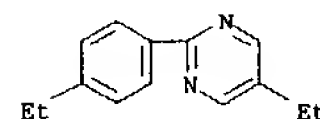
CM 3

CRN 153971-47-2
CMF C18 H25 N O

Relative stereochemistry.

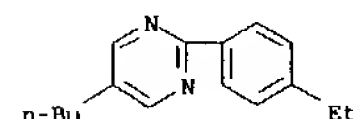


L9 ANSWER 408 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 8

CRN 64835-59-2
CMF C16 H20 N2

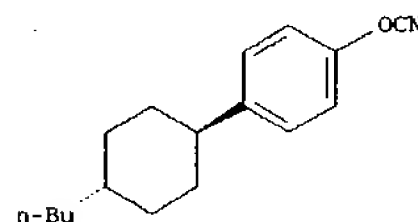


L9 ANSWER 408 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 4

CRN 153971-46-1
CMF C17 H23 N O

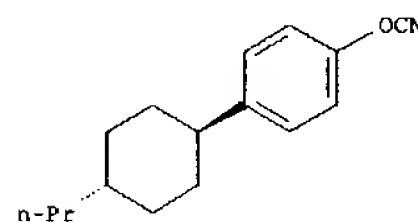
Relative stereochemistry.



CM 5

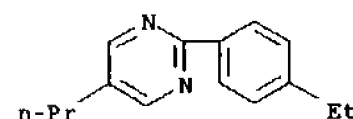
CRN 153971-45-0
CMF C16 H21 N O

Relative stereochemistry.



CM 6

CRN 98495-11-5
CMF C15 H18 N2

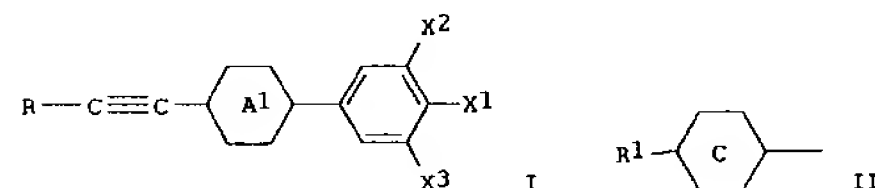


CM 7

CRN 98495-10-4
CMF C14 H16 N2

L9 ANSWER 409 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:234510 CAPLUS
DOCUMENT NUMBER: 122:20998
TITLE: Acetylene derivatives and liquid crystalline mixtures containing them
INVENTOR(S): Schadt, Martin; Villiger, Alois
PATENT ASSIGNEE(S): F. Hoffmann-La Roche AG, Switz.
SOURCE: Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------|------|------------------|-----------------|----------|
| EP 589331 | A1 | 19940330 | EP 1993-114723 | 19930914 |
| EP 589331 | B1 | 19970409 | | |
| R: CH, DE, FR, GB, IT, LI, NL | | | | |
| JP 06199713 | A2 | 19940719 | JP 1993-237879 | 19930924 |
| US 5447657 | A | 19950905 | US 1994-208165 | 19940308 |
| PRIORITY APPLN. INFO.: | | | CH 1992-3006 | 19920925 |
| | | | US 1993-107554 | 19930817 |
| OTHER SOURCE(S): | | MARPAT 122:20998 | | |
| GI | | | | |



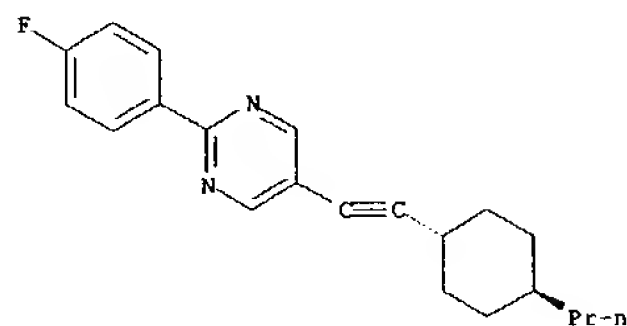
AB The title derivs. are described by the general formula I (R = a C1-12 alkyl group or a group described by the general formula II; ring A1 = an unsubstituted or fluoro-substituted 1,4-phenylene, pyridin-2,5-diyl, or pyrimidin-2,5-diyl group; ring A2 = trans-1,4-cyclohexylene or trans-1,3-dioxan-2,5-diyl; R1 = a C1-12 alkyl-, alkanyl-, or Alkoxyalkyl group; X1 = a F, Cl, Br, trifluoromethyl, trifluoromethoxy, or difluoromethoxy group; and X2 and X3 = H or F). Liquid crystals mixts. containing the derivs. are also described, as is the use of the mixts. for optical or electrooptical applications.
IT 159524-19-3P, 5-[(trans-4-Propylcyclohexyl)ethynyl]-2-(4-fluorophenyl)pyrimidine
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acetylene derivs. and liquid crystalline mixts. containing them)
RN 159524-19-3 CAPLUS
CN Pyrimidine, 2-(4-fluorophenyl)-5-[(4-propylcyclohexyl)ethynyl]-, trans-(9CI) (CA INDEX NAME)

Relative stereochemistry.

9/811,359

09/ 835,523

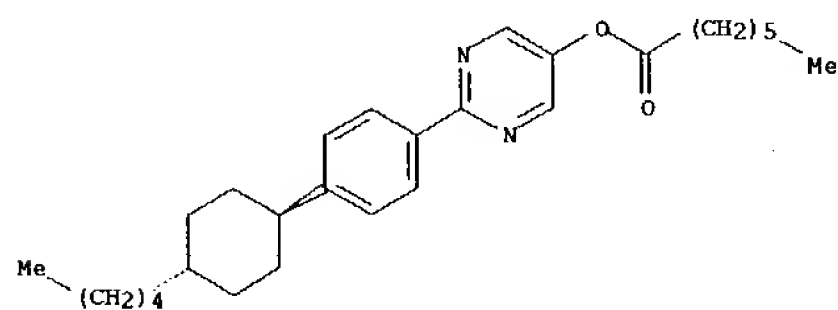
L9 ANSWER 409 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 410 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

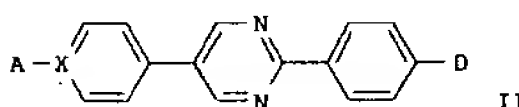
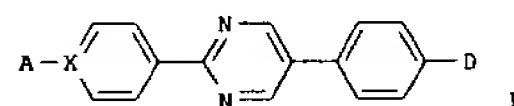
ACCESSION NUMBER: 1995:233321 CAPLUS
DOCUMENT NUMBER: 122:148083
TITLE: Synthesis, transition temperatures, some physical properties and the influence of linkages, outboard dipoles and double bonds on smectic C formation in cyclohexylphenylpyrimidines
AUTHOR(S): Kelly, Stephen M.; Fufschilling, Jurg
CORPORATE SOURCE: Dept. RLCR, F. Hoffman-La Roche Ltd., Basle, CH-4002, Switz.
SOURCE: Journal of Materials Chemistry (1994), 4(11), 1673-88
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A trans-1,4-disubstituted cyclohexane ring was introduced into known two-ring phenylpyrimidines to produce a wide variety of new three-ring cyclohexylphenylpyrimidines. The length and type of the terminal chains and linking units were varied systematically. The effect of introducing a C-C double bond of defined configuration into various positions of both terminal chains also was studied. The influence of lateral dipoles (i.e. O and carboxyl groups) in different positions (central and terminal) in the mol. core of a model system on the smectic C (Sc) transition temperature was studied and related in a simple empirical way to standard theories for Sc phase formation. Isolated, nonconjugated outboard dipoles (i.e. in cyclohexyl ethers and esters) destabilize the Sc and nematic (N) phases. Conjugated outboard dipoles (i.e. in Ph ethers and esters) lead to substantial increases in the Sc transition temperature and usually to a widening of the Sc temperature range. Most of the new cyclohexylphenylpyrimidines exhibit a variety of smectic phases as well as Sc and N phases. Several homologous series of the most interesting cyclohexylphenylpyrimidines incorporating O atoms or carboxy groups and/or a C-C double bond were synthesized and found to exhibit a relatively wide-range Sc phase at elevated temps. In admixt. with a chiral smectic C mixture, some of the new three-ring cyclohexylphenylpyrimidines can induce a substantial increase in the Sc and N transition temps. without increasing the viscosity (and thus response times) excessively.
IT 153486-59-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and liquid crystal properties of)
RN 153486-59-0 CAPLUS
CN Heptanoic acid, 2-[4-(4-pentylcyclohexyl)phenyl]-5-pyrimidinyl ester, trans- (9CI) (CA INDEX NAME)
Relative stereochemistry.

L9 ANSWER 410 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

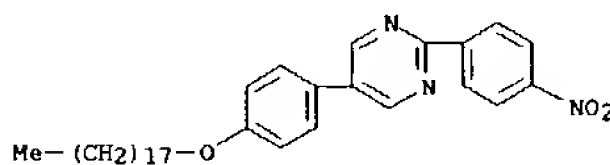


L9 ANSWER 411 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:231105 CAPLUS
DOCUMENT NUMBER: 122:20115
TITLE: Aromatically substituted pyrimidine derivatives, their preparation, and their use in liquid-crystal mixtures for nonlinear optics
INVENTOR(S): Gompper, Rudolf; Engel, Harald; Lupo, Donald
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 32 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
PATENT NO. KIND DATE APPLICATION NO. DATE
DE 4241806 A1 19940616 DE 1992-4241806 19921211
US 5507974 A 19960416 US 1993-164145 19931209
JP 06228131 A2 19940816 JP 1993-312242 19931213
PRIORITY APPLN. INFO.: DE 1992-4241806 19921211
OTHER SOURCE(S): MARPAT 122:20115
GI



AB The compds. have the general formula I or II, where AX = NO2C, R1OCOC, R1CO2C, R2COC, N, R3N+ An-, (CN)2CN, or R1SO2C; An- = an anion; D = NH2, NHNH2, OR6, O(CH2)pOH, OH, NR5R6, NHR6, N:CHR4, HNN:CHR4, or NO2; R1, R2, R3, R5 = C1-22 alkyl or CF3(CF2)m(CH2)n; m ≥ 5; n ≥ 0; n + m ≤ 22; R4 = optionally substituted Ph; R6 = C1-22 alkyl, CF3(CF2)m(CH2)n, or (CH2)pOH; and p = 2-5.
IT 159488-45-6P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (preparation of; for nonlinear optical devices)
RN 159488-45-6 CAPLUS
CN Pyrimidine, 2-(4-nitrophenyl)-5-[4-(octadecyloxy)phenyl]- (9CI) (CA INDEX NAME)



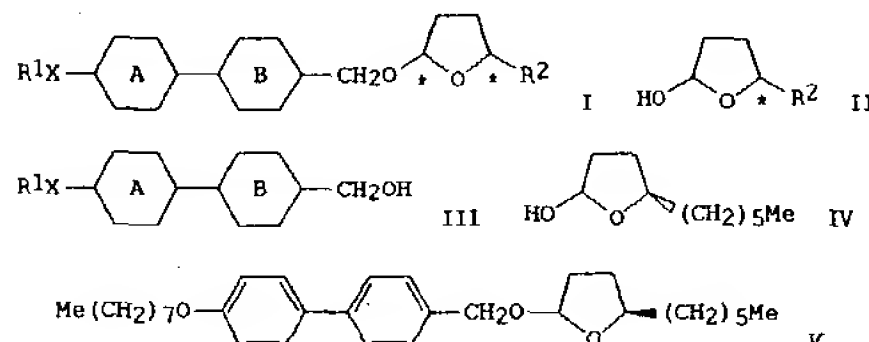
09/835,523

9/811,359

L9 ANSWER 411 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 412 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:220154 CAPLUS
 DOCUMENT NUMBER: 122:20999
 TITLE: Preparation of optically active 2,5-disubstituted tetrahydrofuran derivatives, liquid crystal composition, and liquid crystal device containing the derivative
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Nakayama, Akiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 06100551 | A2 | 19940412 | JP 1991-227507 | 19910906 |
| PRIORITY APPLN. INFO.: | | | JP 1991-227507 | 19910906 |
| OTHER SOURCE(S): | | MARPAT 122:20999 | | |



AB The title compds. (I: R1 = (un)substituted C1-18 alkyl; X = single bond, O, CO2, O2C, OCO2; ring A, B = 1,4-phenylene, trans-1,4-cyclohexylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-2,5-diyl, or 1,3-dioxane-2,5-diyl each of which is optionally substituted by 1 or 2 F atoms; at least one of ring A and B = 1,4-phenylene optionally substituted by 1 or 2 F atoms; R2 = C1-18 alkyl; the absolute configuration of the 2 asym. C atoms (C*) is independently either R or S), useful as chiral dopants for liquid crystal compns., are prepared by condensation of optically active lactol (II; R2 = same as above) with (hetero)arylmethanols. (III: R1, X, ring A and B = same as above). in the presence of an acid. A ferroelec. liquid crystal composition having chiral smectic C phase contains I. Optically active THF derivs. I are colorless, readily prepared, and show excellent stability against H2O, light, and particularly acid and base, induce large spontaneous polarization by adding to a liquid crystal. base, and provide a ferroelec. liquid crystal

L9 ANSWER 412 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 display material with high speed response (.apprx.100 μs) over a broad temp. range and excellent memory property. Thus, dry HCl(g) was blown into a soln. of 0.10 mmol 2-hydroxytetrahydrofuran deriv. [(5R)-(IV)] (prepn. given) and 261 mg 4-hydroxymethyl-4'-octyloxybiphenyl in CH2Cl2 at 0° and the resultant mixt. was kept at -20° overnight to give, after silica gel chromatog., title compd. (V) as a mixt. of diastereomers. A ferroelec. chiral smectic C liq. crystal compn. contg. 20 wt.% more polar diastereomer of V and 80 wt.% mixt. of four 2-phenylpyrimidine derivs. was prepd. and provided a liq. crystal display device with response time 118 μs, spontaneous polarization +1.75 nc/cm2, tilt angle 9.5°, and good contrast.

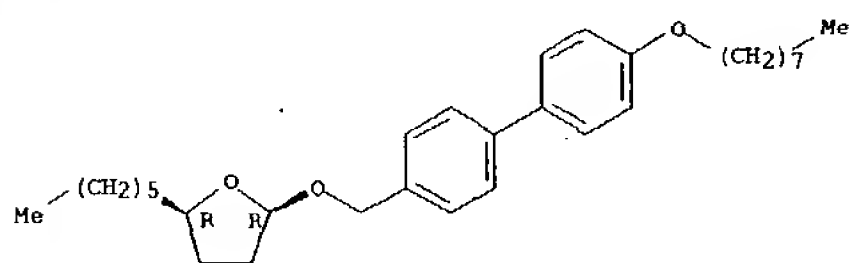
IT 159515-56-7P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (ferroelec. chiral smectic C liquid crystal composition, for display)

RN 159515-56-7 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, (2R-cis)-2-hexyltetrahydro-5-[[4'-(octyloxy)[1,1'-biphenyl]-4-yl]methoxy]furan, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

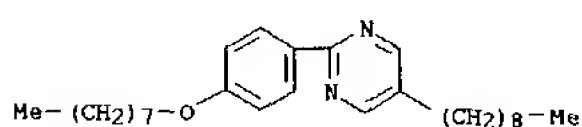
CRN 159375-43-6
 CMF C31 H46 O3

Absolute stereochemistry.



CM 2

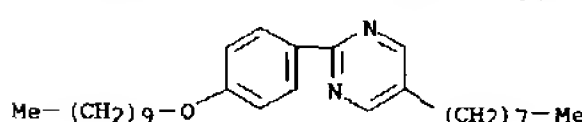
CRN 57202-58-1
 CMF C27 H42 N2 O



CM 3

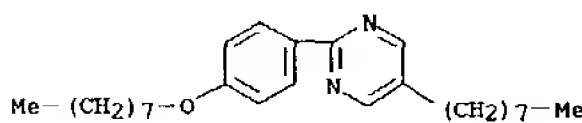
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 CMF C28 H44 N2 O

L9 ANSWER 412 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



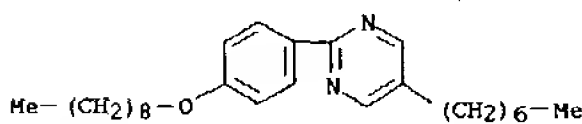
CM 4

CRN 57202-50-3
 CMF C26 H40 N2 O



CM 5

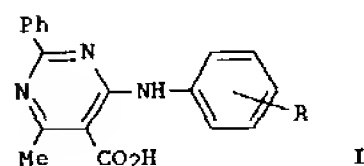
CRN 57202-40-1
 CMF C26 H40 N2 O



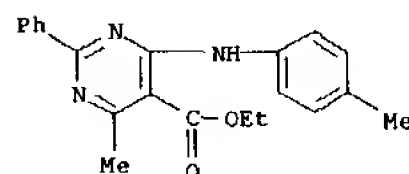
9/811, 357

09/ 835, 523

L9 ANSWER 413 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:217281 CAPLUS
 DOCUMENT NUMBER: 122:128377
 TITLE: Antibacterial properties of some 5-pyrimidinecarboxylic acid derivatives
 AUTHOR(S): Cieplik, Jerzy; Pluta, Janusz; Flendrich, Mariola
 CORPORATE SOURCE: Inst. Org. Chem., Sch. Med., Wrocław, 50137, Pol.
 SOURCE: Acta Polonicae Pharmaceutica (1994), 51(1), 59-62
 CODEN: APPHAX; ISSN: 0001-6837
 PUBLISHER: Polish Pharmaceutical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Antibacterial screening data against *Staphylococcus aureus*, *Proteus vulgaris*, *Pseudomonas aeruginosa* and *Escherichia coli* were reported for I [R = 2-Cl, 4-Cl, 3,4-Cl₂, 3,5-Cl₂, 4-OH, 4-Me, and 4-Cl, 3-F (II)] as well for their Et esters. Highest activity (MIC 6 µg/mL with all strains) was noted with II. I (R = 4-OH) and its Et ester were prepared by known methods.
 IT 154957-57-0
 RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (antibacterial properties of some 5-pyrimidinecarboxylic acid derivs.)
 RN 154957-57-0 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-methyl-6-[(4-methylphenyl)amino]-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)

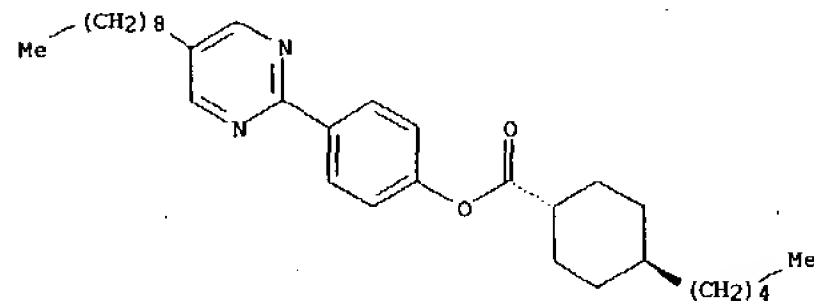


L9 ANSWER 415 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:207981 CAPLUS
 DOCUMENT NUMBER: 122:93023
 TITLE: Perfluoroalkoxyphenyl fluoroalkylbenzoate, its preparation, its-containing liquid crystal composition, and display
 INVENTOR(S): Nohira, Hiroyuki; Sakaigawa, Akira; Imamura, Shinichi
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06239800 | A2 | 19940830 | JP 1993-46114 | 19930212 |

PRIORITY APPLN. INFO.: JP 1993-46114 19930212
 OTHER SOURCE(S): MARPAT 122:93023
 AB The title compound consists of CmH_{2m+1}C(CF₃)H-1,4-C₆H₄CO₂-1,4-C₆H₄CH₂CnF_{2n+1} (I; m, n = 1-20) or I (m = 6, n = 7). The compound is prepared by esterification of HO-1,4-C₆H₄CH₂CnF_{2n+1} and CmH_{2m+1}C(CF₃)H-1,4-C₆H₄CO₂H. The liquid crystal composition contains smectic liquid crystal compds. and the claimed compound. The display is obtained by using the composition. The compound showed high spontaneous polarization and rapid response.
 IT 160189-32-2
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal display containing perfluoroalkoxyphenyl fluoroalkylbenzoate with high spontaneous polarization and rapid response)
 RN 160189-32-2 CAPLUS
 CN Cyclohexanecarboxylic acid, 4-pentyl-, 4-(5-nonyl-2-pyrimidinyl)phenyl ester, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



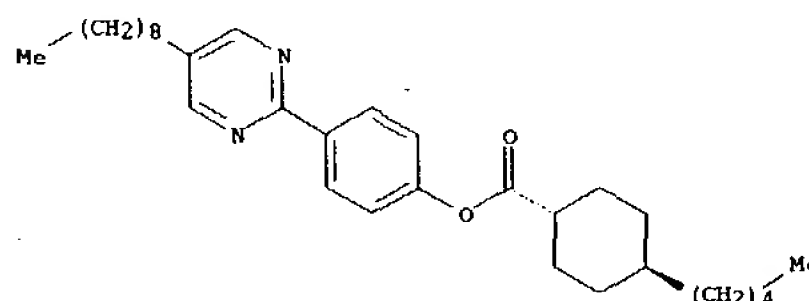
L9 ANSWER 414 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:207982 CAPLUS
 DOCUMENT NUMBER: 122:93024
 TITLE: Perfluoroalkoxyphenyl fluoroalkylbenzoate, its preparation, its-containing liquid crystal composition, and display
 INVENTOR(S): Nohira, Hiroyuki; Sakaigawa, Akira
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06239802 | A2 | 19940830 | JP 1993-46113 | 19930212 |

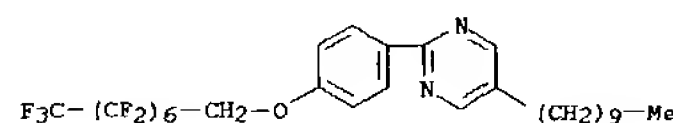
PRIORITY APPLN. INFO.: JP 1993-46113 19930212
 OTHER SOURCE(S): MARPAT 122:93024

AB The title compound consists of CmH_{2m+1}CHFC₂H-1,4-C₆H₄CO₂-1,4-C₆H₄CH₂CnF_{2n+1} (I; m, n = 1-20) or I (m = 6, n = 7). The compound is prepared by esterification of HO-1,4-C₆H₄CH₂CnF_{2n+1} and CmH_{2m+1}CHFC₂H-1,4-C₆H₄CO₂H. The liquid crystal composition contains smectic liquid crystal compds. and the claimed compound. The display is obtained by using the composition. The compound showed high spontaneous polarization and rapid response.
 IT 160189-32-2
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal display containing perfluoroalkoxyphenyl fluoroalkylbenzoate with high spontaneous polarization and rapid response)
 RN 160189-32-2 CAPLUS
 CN Cyclohexanecarboxylic acid, 4-pentyl-, 4-(5-nonyl-2-pyrimidinyl)phenyl ester, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L9 ANSWER 416 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:200063 CAPLUS
 DOCUMENT NUMBER: 122:68809
 TITLE: Enhanced thermal response of the S_{ad1} layer thickness in highly fluorinated thermotropic liquid crystals
 AUTHOR(S): Rieker, Thomas P.; Janulis, Eugene P.
 CORPORATE SOURCE: Sandia Natl. Lab., Albuquerque, NM, 87185, USA
 SOURCE: Liquid Crystals (1994), 17(5), 681-7
 CODEN: LICRE6; ISSN: 0267-8292
 PUBLISHER: Taylor & Francis
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB X-ray studies of a homologous series of rod-shaped liquid crystal mols. with one tail perfluorinated and the other protonated, reveal large decreases in the smectic A layer spacing with increasing temperature. These materials form unique dimer phases in which the smectic layer spacing is dependent on the length of the perfluorinated tail and independent of the length of the protonated tail. The chain statistics of the perfluorinated tail significantly influence the thermal expansion coefficient since the length of the fluorinated tail defines the smectic layer spacing. Thermal expansion coeffs. for the layer spacing observed here are neg. and nearly an order of magnitude greater than for typical protonated rod-shaped thermotropic liquid crystals in the SA phase.
 IT 152915-41-8
 RL: PRP (Properties)
 (enhanced thermal response of S_{ad1} layer thickness in thermotropic liquid crystals of)
 RN 152915-41-8 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



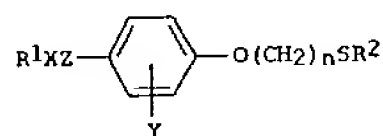
9/811, 359

09/ 835, 523

L9 ANSWER 417 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:193555 CAPLUS
 DOCUMENT NUMBER: 122:20680
 TITLE: Thioalkyl liquid-crystal compound
 INVENTOR(S): Terada, Fumiko; Kageyama, Yoshitaka; Ikemoto, Tetsuya;
 Nakaoka, Yuriko
 PATENT ASSIGNEE(S): Mitsubishi Rayon Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 06228083 | A2 | 19940816 | JP 1991-327259 | 19911211 |
| PRIORITY APPLN. INFO.: | | | JP 1991-327259 | 19911211 |
| OTHER SOURCE(S): | | MARPAT 122:20680 | | |

GI



AB A thioalkyl derivative liquid-crystal compound I is claimed [R1-2 = C2-16 (branched) alkyl; Z = 1,4-C6H4, Q = pyrimidin-2,5-diyl, 1,4-C6H4Q, Q-1,4-C6H4; X = none, O; n = 1-16; Y = H, F]. The compound is useful for imaging devices. A liquid-crystal composition containing I (Z = Q, R1 = octyl, n

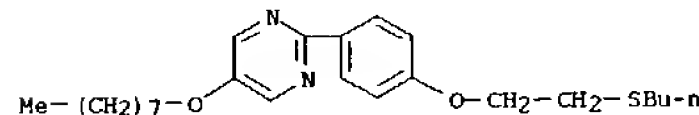
= 2, R2 = butyl) showed good durability.

IT 159660-15-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (thioalkyl liquid-crystal compound with good durability for imaging devices)

RN 159660-15-8 CAPLUS

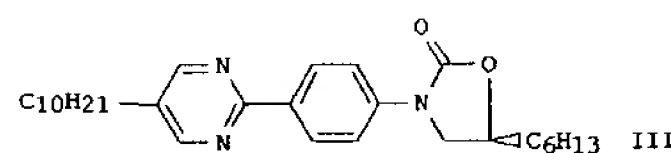
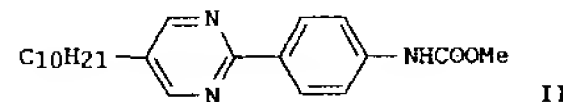
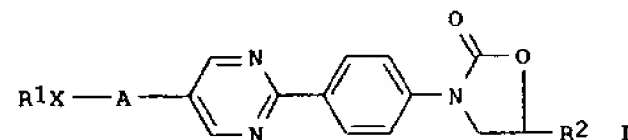
CN Pyrimidine, 2-[4-[2-(butylthio)ethoxy]phenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME)



L9 ANSWER 418 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:183000 CAPLUS
 DOCUMENT NUMBER: 122:105907
 TITLE: Preparation of optically active [(oxookazolidinyl)phenyl]pyrimidines for liquid crystal compositions
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem. Res.
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------------------------------------|-----------------|----------|
| JP 06184142 | A2 | 19940705 | JP 1992-338714 | 19921218 |
| PRIORITY APPLN. INFO.: | | | JP 1992-338714 | 19921218 |
| OTHER SOURCE(S): | | CASREACT 122:105907; MARPAT 122:105907 | | |

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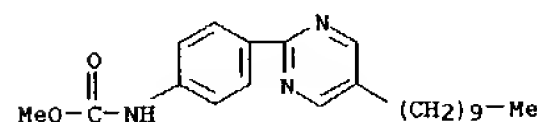


AB Title compds. I [R1 = F, (C1-10 alkoxy) C1-18 alkyl; X = bond, O; A = (Al)m; Al = (fluorinated) 1,4-phenylene, trans-1,4-cyclohexylene; R2 = C1-10 alkyl; m = 0, 1] having an asym. carbon at the 5 position of the oxazolidine ring, are prepared. Thus, Et (p-cyanophenyl)carbamate (preparation given) in EtOH-CH2Cl2 was reacted with HCl(g) and then with NH3(g) and the resulting 4-(ethoxycarbonylamino)benzamidinium hydrochloride was reacted with 3-(dimethylamino)-2-decylpropenal to give the phenylcarbamate II, which was reaction with (R)-1,2-epoxyoctane in the presence of Et3N to give the title compound III. I in a liquid crystal composition showed high nematic-isotropic phase transitions temperature for display.

IT 158956-14-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate in preparation of optically active

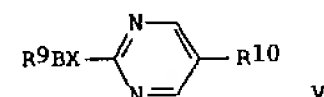
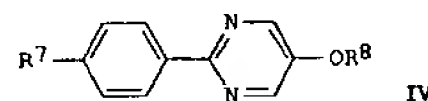
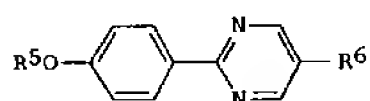
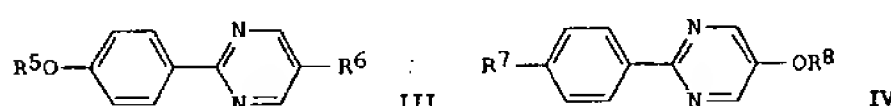
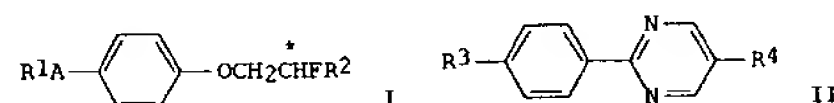
L9 ANSWER 418 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 [(oxookazolidinyl)phenyl]pyrimidines for strongly inductive liq. crystals)
 RN 158956-14-0 CAPLUS
 CN Carbamic acid, [4-(5-decyl-2-pyrimidinyl)phenyl]-, methyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 419 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:87154 CAPLUS
 DOCUMENT NUMBER: 122:20634
 TITLE: ferroelectric liquid crystal composition
 INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori; Nozaki, Choji
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05345892 | A2 | 19931227 | JP 1992-180293 | 19920615 |
| PRIORITY APPLN. INFO.: | | | JP 1992-180293 | 19920615 |

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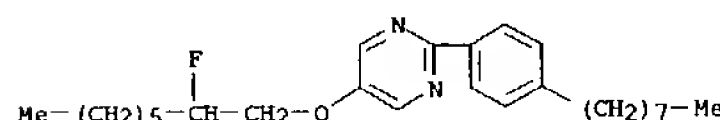
AB A ferroelec. liquid crystal composition suited for use in a fast-response electrooptical display device comprises I 5-30, II 5-50, III 5-40, IV 2-15, and V 20-70 weight% (R1 = C3-15 alkyl which may be substituted with halogens; R2 = C3-7 alkyl which may be substituted with halogens; A = 2,5-pyridinylene or 2,5-pyrimidinylene; * indicates the position of an unsym. C atom; R3-8 = C5-15 alkyl; R9 = C2-12 alkyl; R10 = C3-15 alkyl; B = 1,4-cyclohexylene, 1,4-phenylene, or 2,5-pyridinylene; X = 1,4-phenylene or 2,5-pyridinylene; ≥1 nonadjacent methylene group may be substituted with O).

IT 155430-67-4

RL: USES (Uses)
 (ferroelec. liquid crystal compns. containing, for electrooptical display devices)

RN 155430-67-4 CAPLUS

CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-octylphenyl)- (9CI) (CA INDEX NAME)

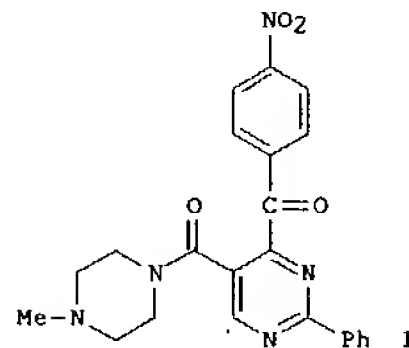


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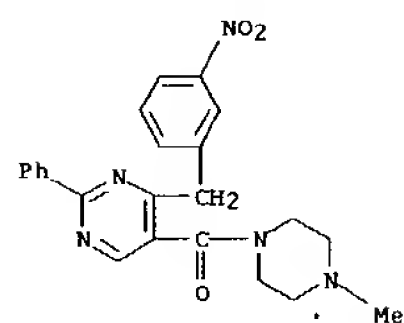
L9 ANSWER 419 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 420 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:75794 CAPLUS
DOCUMENT NUMBER: 122:55996
TITLE: Studies of cerebral protective agents. VI. Synthesis of novel 4-(4-nitrobenzoyl)pyrimidine and related compounds with antianoxic activity
AUTHOR(S): Ohkubo, Mitsuru; Kuno, Atsushi; Sakai, Hiroyoshi; Sugiyama, Yoshie; Takasugi, Hisashi
CORPORATE SOURCE: New Drug Res. Lab., Fujisawa Pharmaceutical Co., Ltd., Osaka, 532, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1994), 42(6), 1279-85
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



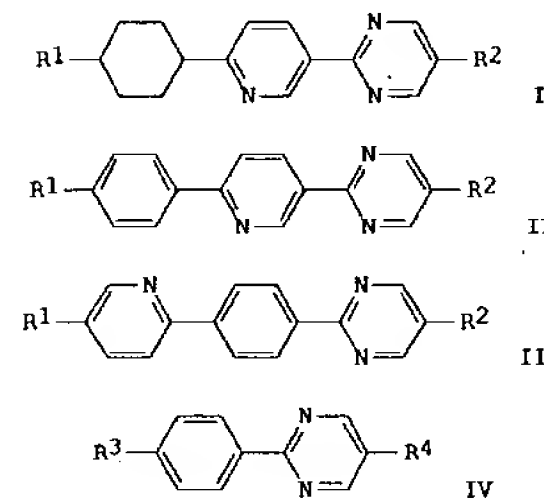
AB Novel pyrimidine derivs., possessing linkages between the aryl group and the pyrimidine nucleus at the C-4 position, were prepared and tested for antianoxic activity in mice. Among them, 5-(4-methylpiperazin-1-ylcarbonyl)-4-(4-nitrobenzoyl)-2-phenylpyrimidine (FR 76659) (I) possessed significant antianoxic activity (10-100 mg/kg, i.p.) with low acute toxicity (LD50 > 1000 mg/kg, i.p.). Structure-activity relationship in regard to antianoxic activity of this series of compds. were examined
IT 159970-99-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of antianoxic cerebral protective agent
[(pyrimidinyl)carbonyl]piperazine)
RN 159970-99-7 CAPLUS
CN Piperazine, 1-methyl-4-[[4-[(3-nitrophenyl)methyl]-2-phenyl-5-pyrimidinyl]carbonyl]-, monohydrochloride (9CI) (CA INDEX NAME)

L9 ANSWER 420 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



● HCl

L9 ANSWER 421 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:73897 CAPLUS
DOCUMENT NUMBER: 122:20635
TITLE: Ferroelectric liquid crystal composition with fast response and liquid crystal display device using same
INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori; Ishizuka, Takahiro; Yamada, Hisao
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
PATENT NO. KIND DATE APPLICATION NO. DATE
JP 06009959 A2 19940118 JP 1992-190022 19920624
PRIORITY APPLN. INFO.: JP 1992-190022 19920624
OTHER SOURCE(S): MARPAT 122:20635
GI



AB In the title composition comprising a chiral compound 5-60 and an achiral compound 1-20, the achiral compd(s) is selected from I, II, and III (R1, R2 = C2-16 alkyl, alkoxy; ≥1 non-adjacent methylene groups in R1 and R2 may be substituted by O), and IV (R3 = C5-15 alkyl; R4 = C4-8 alkyl). The alignment film of the title device shows a pre-tilt angle of 25° when the liquid crystal is in its SA phase, and the device has an insulating layer having a dielec. constant ≥5 between the transparent electrode and the alignment film of 1 or both supports.
IT 159252-30-9
RL: USES (Uses)
(achiral, for ferroelec. liquid crystal display)
RN 159252-30-9 CAPLUS
CN Pyrimidine, 5-decyl-2-[4-(decyloxy)phenyl]-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA

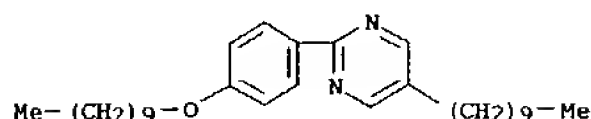
09/ 835,523

9/811, 359

L9 ANSWER 421 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
INDEX NAME)

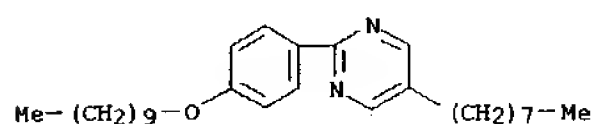
CM 1

CRN 57202-63-8
CMF C30 H48 N2 O



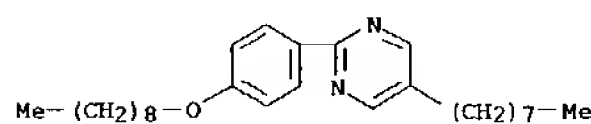
CM 2

CRN 57202-52-5
CMF C28 H44 N2 O



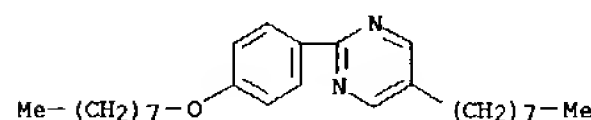
CM 3

CRN 57202-51-4
CMF C27 H42 N2 O

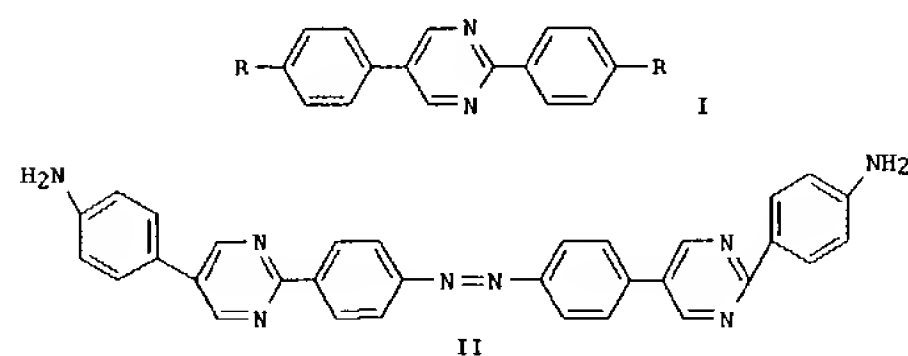


CM 4

CRN 57202-50-3
CMF C26 H40 N2 O



L9 ANSWER 423 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:32118 CAPLUS
DOCUMENT NUMBER: 122:9977
TITLE: Catalytic hydrogenation of 2,5-bis(p-nitrophenyl)pyrimidine
AUTHOR(S): Borovik, V. P.; Sedova, V. F.; Shkurko, O. P.
CORPORATE SOURCE: Novosib. Inst. Org. Khim., Russia
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1993), (11), 1534-9
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI

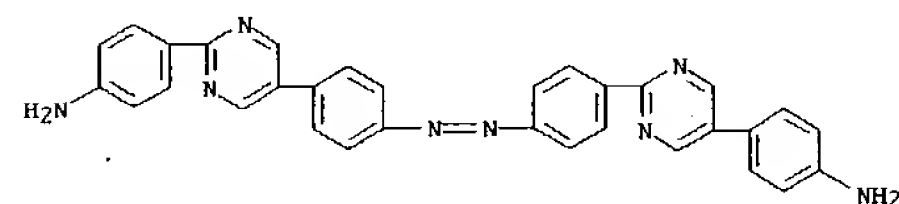


AB Hydrogenation of the title compound (I, R = NO₂) over Pd/C in HOAc at 1 atm H₂ gave 2,5-bis(4-aminophenyl)-1,4,5,6-tetrahydropyrimidine. Hydrogenation under pressure in DMF gave I (R = NH₂), azobenzene derivative II, and 2 isomers of II. The isomeric mixture of II was hydrogenated to I (R = NH₂) over Raney Ni.

IT 159414-48-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)

RN 159414-48-9 CAPLUS

CN Benzenamine, 4-[2-[4-[[4-[2-(4-aminophenyl)-5-pyrimidinyl]phenyl]azo]phenyl]-5-pyrimidinyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 422 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:65948 CAPLUS
DOCUMENT NUMBER: 122:20896
TITLE: Unusual layer-thinning transition observed near the smectic-A-isotropic transition in free-standing liquid-crystal films

AUTHOR(S): Stoebe, T.; Mach, P.; Huang, C. C.
CORPORATE SOURCE: Sch. Phys. Astronomy, Univ. Minnesota, Minneapolis, MN, 55455, USA

SOURCE: Physical Review Letters (1994), 73(10), 1384-7
CODEN: PRLTAO; ISSN: 0031-9007

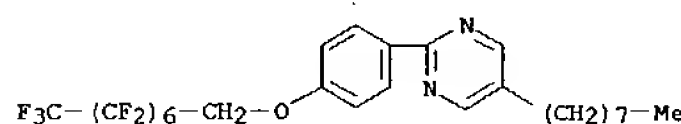
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Calorimetric and optical reflectivity studies on free-standing partially fluorinated liquid-crystal films revealed novel melting phenomena. The smectic-A-isotropic transition occurs through a series of layer-thinning transitions, causing the films to thin in a stepwise manner as the temperature is increased. The temperature dependence of the film thickness is well fitted by a simple power law. These results are discussed in the context of present theory and the effects of fluorination are addressed.

IT 152915-43-0
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(layer-thinning transition observed near the smectic-A-isotropic transition in free-standing liquid-crystal films of)

RN 152915-43-0 CAPLUS

CN Pyrimidine, 5-octyl-2-[4-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 424 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:30226 CAPLUS
DOCUMENT NUMBER: 122:132983
TITLE: Preparation of poly[(hetero)aryl] compounds as liquid crystal components
INVENTOR(S): Schlosser, Hubert; Wingen, Rainer; Manero, Javier
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 30 pp.
CODEN: GWXXEX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

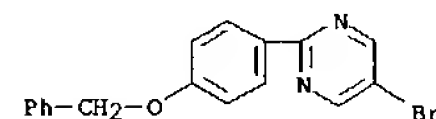
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------|------|----------|-----------------|----------|
| DE 4236103 | A1 | 19940428 | DE 1992-4236103 | 19921026 |
| WO 9410105 | A1 | 19940511 | WO 1993-EP2733 | 19931006 |
| W: JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 665825 | A1 | 19950809 | EP 1993-922520 | 19931006 |
| EP 665825 | B1 | 19970115 | | |
| R: CH, DE, FR, GB, LI | | | | |
| JP 08501107 | T2 | 19960206 | JP 1993-510598 | 19931006 |
| JP 2736172 | B2 | 19980402 | | |
| US 5550236 | A | 19960827 | US 1995-424254 | 19950424 |
| PRIORITY APPLN. INFO.: | | | DE 1992-4236103 | 19921026 |
| | | | WO 1993-EP2733 | 19931006 |

OTHER SOURCE(S): MARPAT 122:132983
AB R1(A1)k(M1)1A2A3(M2)m(A4)nR2 {A1-A4 = 1,4-C6H4, heteroarylene, etc.; M1,M2 = O, CO, CO₂, CH₂, CH₂CH₂, CH=CH, etc.; R1,R2 = H, OCH₂Ph, halo, (iso)ciano, CF₃, alkyl in which 21H CH₂ may be replaced by O, CO, CO₂, CH=CH, C.tplbond.C, etc.; k-n = 0 or 1} were prepared by coupling of R1(A1)k(M1)1A2B(OH)2 with XA3(M2)m(A4)nR2 (X = Cl, Br, iodo, fluoroalkylsulfonyloxy) in the presence of Pd, a ligand, and a base. Thus, 2,5-dibromopyrimidine was heated 24h at 80° with 4-(PhH₂CO)C₆H₄B(OH)₂ in PhMe/EtOH/H₂O containing Pd/C, Ph₃P, and Na₂CO₃ to give 97% 5-bromo-2-(4-benzoyloxyphenyl)pyrimidine.

IT 152915-90-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as liquid crystal component)

RN 152915-90-7 CAPLUS

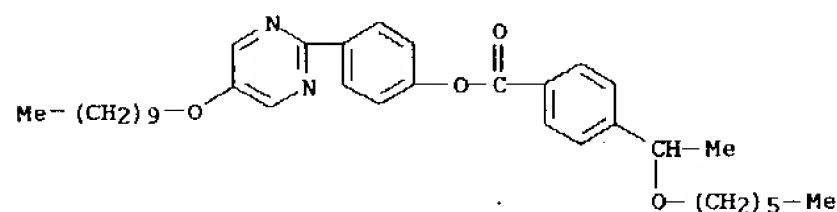
CN Pyrimidine, 5-bromo-2-[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



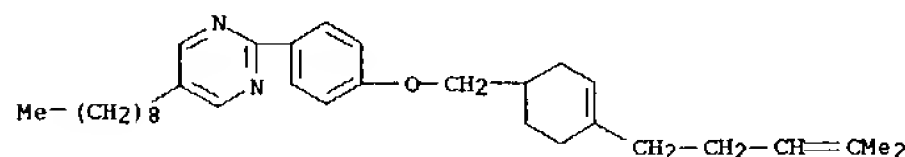
9/811, 359

09/ 835, 523

L9 ANSWER 425 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:19398 CAPLUS
 DOCUMENT NUMBER: 122:148073
 TITLE: Synthesis and physical properties of new biphenyl and phenylpyrimidine type ferroelectric liquid crystals
 AUTHOR(S): Higashi, Takayuki; Kurimoto, Isao; Toda, Shoji; Takano, Naoyuki; Fujimoto, Yukari; Minai, Masayoshi; Sekine, Chizu; Tani, Takeshi; Ueda, Kayoko; Fujisawa, Koichi
 CORPORATE SOURCE: Org. Synth. Res. Lab., Sumitomo Chem. Co., LTD., Takatsuki, 569, Japan
 SOURCE: Ferroelectrics (1993), 148(1-4), 169-78
 CODEN: FEROA8; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New biphenyl and phenylpyrimidine type ferroelec. liquid crystals were synthesized and their phys. properties studied. Each of these compds. has a chiral C atom directly linked to the core structure or has a methylene chain between the chiral C atom and the core moiety. The internal methylene chain and the core structure have an effect on the temperature range of the phase transition and the rotational viscosity in the Sc* phase, resp.
 IT 154732-59-9P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and ferroelec. liquid crystal properties of)
 RN 154732-59-9 CAPLUS
 CN Benzoic acid, 4-[1-(hexyloxy)ethyl]-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

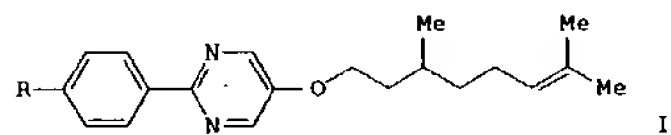


L9 ANSWER 426 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:16385 CAPLUS
 DOCUMENT NUMBER: 122:20297
 TITLE: New ferroelectric liquid crystal host materials for use in optoelectronic applications
 AUTHOR(S): Wand, Michael D.; Vohra, Rohini; Thurmes, William; More, Kundalika
 CORPORATE SOURCE: Disp. Inc., Boulder, CO, 80301, USA
 SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1994), 2175(LIQUID CRYSTAL MATERIALS, DEVICES, AND APPLICATIONS III), 2-7
 CODEN: PSISDG; ISSN: 0277-786X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Ferroelec. smectic C* liquid crystals (FLCs) have been shown to exhibit high speed electrooptic response when incorporated into the surface stabilized ferroelec. liquid crystal (SSFLC) light valve. An important component of the FLC material used in devices is the smectic C host, which imparts many of the important characteristics to the final mixture, allowing customization to a specific type of device. A new class of FLC materials based on a cyclohexenyl core is reported and their properties evaluated in both the pure material and mixts.
 IT 155468-50-1, MDW343
 RL: DEV (Device component use); PRP (Properties); USES (Uses) (ferroelec. liquid crystal host materials based on cyclohexenyl core for optoelectronic applications)
 RN 155468-50-1 CAPLUS
 CN Pyrimidine, 2-[4-[[4-(4-methyl-3-pentenyl)-3-cyclohexen-1-yl]methoxy]phenyl]-5-nonyl- (9CI) (CA INDEX NAME)



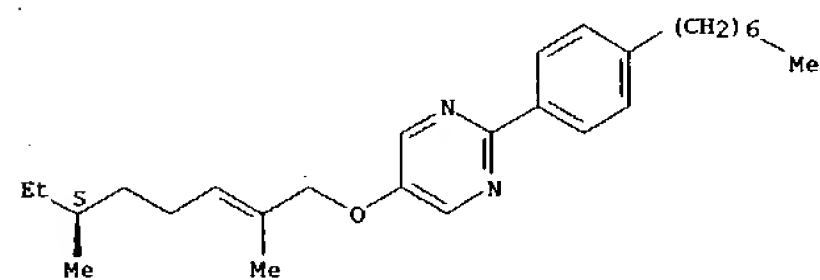
L9 ANSWER 427 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:373 CAPLUS
 DOCUMENT NUMBER: 122:20632
 TITLE: Preparation of optically active 5-citronellyloxy-2-phenylpyrimidines as helical pitch controllers and liquid crystal compositions containing them
 INVENTOR(S): Shimazaki, Masato; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05201996 | A2 | 19930810 | JP 1992-14285 | 19920129 |
| PRIORITY APPLN. INFO.: | | | JP 1992-14285 | 19920129 |



AB The title compds. I [R = C1-20 (un)substituted linear or branched alkyl] and liquid crystal compns. containing I are claimed. I are useful as components to make helical pitch longer (helical pitch cancellers) in preparation of chiral nematic and chiral smectic C liquid crystal compns. for display devices.
 IT 159647-29-7P
 RL: PREP (Preparation) (preparation of, as helical pitch controller for chiral nematic and smectic C liquid crystal compns.)
 RN 159647-29-7 CAPLUS
 CN Pyrimidine, 5-[1-(2,6-dimethyl-2-octenyl)oxy]-2-(4-heptylphenyl)-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry unknown.



L9 ANSWER 428 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:712592 CAPLUS
 DOCUMENT NUMBER: 121:312592
 TITLE: Chirality-induced phase transitions in some liquid crystalline binary mixtures
 AUTHOR(S): Nishiyama, Isa; Yoshizawa, Atsushi
 CORPORATE SOURCE: Petroleum Lab., Japan Energy Corporation, Toda, 335, Japan
 SOURCE: Liquid Crystals (1994), 17(4), 555-69
 CODEN: LICRE6; ISSN: 0267-8292
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Novel binary mixts. were prepared between an optically active antiferroelec. liquid crystal, (S)-4-(1-methylheptyloxycarbonyl) 4'-octyloxybiphenyl-4-carboxylate, and an optically active twin liquid crystal, (R)-3-methyladipic acid bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, and the liquid crystalline properties studied. The stability of each liquid crystal phase decreases by mixing these two liquid crystalline materials. Also, a phase diagram between these compds. showed a clear discontinuity in phase sequences. The liquid crystal phase are different in nature between these materials. The mixture consisting of the antiferroelec. material (40 percent) and the twin material (60%) shows an unusual liquid crystal phase, where the texture is similar to that reported for the twist grain boundary (TGB) phase. Related binary mixts. were prepared between optically active or racemic materials, where the chirality of the system is expected to be altered systematically. The TGB phase is induced only in the mixture between the optically active materials. Two kinds of effect on the appearance of the TGB phase, i.e. a strong helical structure induced by the optical active twin liquid crystal and a decrease of the smectic layer strength achieved by mixing between two types of liquid crystalline materials, are discussed.
 IT 155854-32-3
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process) (chirality-induced phase transitions in liquid crystal mixture of methylheptyloxycarbonyl octyloxybiphenylcarboxylate and)
 RN 155854-32-3 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-octyl-2-pyrimidinyl)phenyl] ester, (3R)- (9CI) (CA INDEX NAME)

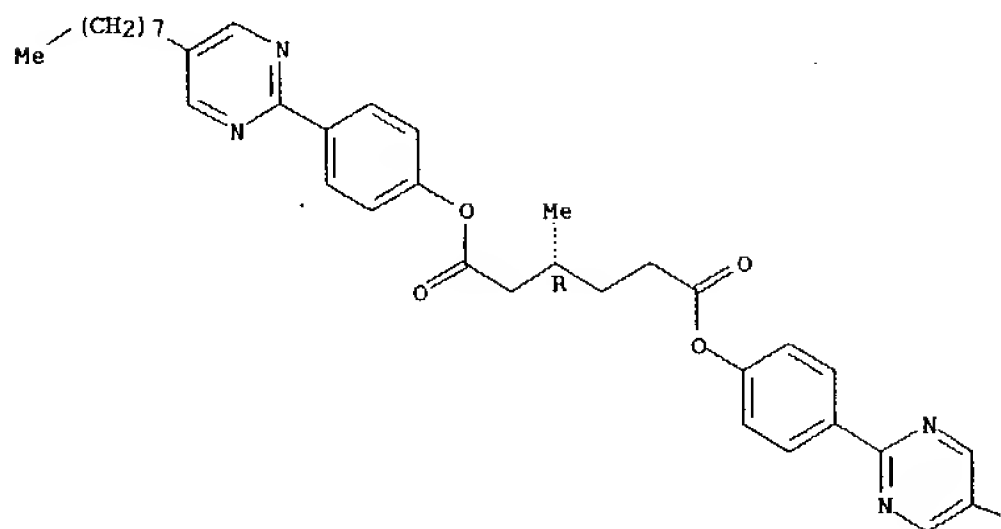
Absolute stereochemistry.

9/811,357

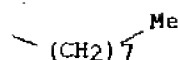
097 835,523

L9 ANSWER 428 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B



L9 ANSWER 429 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:712221 CAPLUS
DOCUMENT NUMBER: 121:312221
TITLE: Mesomorphic compound and liquid-crystal compositions and devices containing it
INVENTOR(S): Yamada, Yoko; Takiguchi, Takao; Iwaki, Takashi; Togano, Takeshi; Nakamura, Shinichi; Nakazawa, Ikuo
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Eur. Pat. Appl., 155 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| EP 606090 | A1 | 19940713 | EP 1994-100186 | 19940107 |
| EP 606090 | B1 | 19971029 | | |
| R: CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| JP 06256231 | A2 | 19940913 | JP 1993-312924 | 19931214 |
| JP 2952141 | B2 | 19990920 | | |
| US 5589103 | A | 19961231 | US 1994-177144 | 19940104 |
| PRIORITY APPLN. INFO.: | | | JP 1993-1974 | 19930108 |
| | | | JP 1993-312924 | 19931214 |

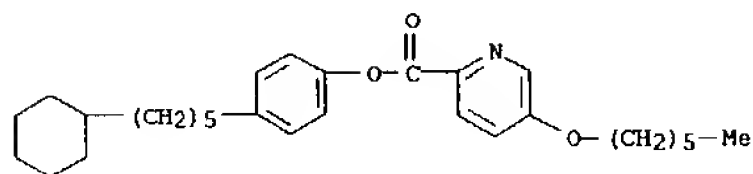
OTHER SOURCE(S): MARPAT 121:312221
AB A mesomorphic compound suitable as a component of a liquid-crystal composition providing improved response speed with decreased temperature dependence has the general formula R1-A-R2, where R1,R2 include terminal cyclic groups free of side chains and A includes pyrimidin-5,2-diyl, pyridin-5,2-diyl, 1,3,4-thiadiazol-2,5-ylene, and/or 2,6-naphthylene. The above liquid crystal composition is useful as an element of a ferroelec. liquid-crystal device and a display apparatus providing good display characteristics.

IT 159395-84-3
RI: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(liquid crystal; for display devices)
RN 159395-84-3 CAPLUS
CN 2-Pyridinecarboxylic acid, 5-(hexyloxy)-, 4-(5-cyclohexylpentyl)phenyl ester, mixt. with 2-[4-(4-cyclohexylbutyl)phenyl]-5-dodecylpyrimidine, 5-decyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 5-decyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-dodecyl-2-[4-[(2-fluorodecyl)oxy]phenyl]pyrimidine, 5-dodecyl-2-[4-(4-phenylbutyl)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine and 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine (9CI) (CA INDEX NAME)

CM 1

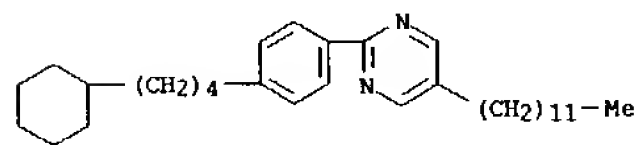
CRN 159395-83-2
CMF C29 H41 N O3

L9 ANSWER 429 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



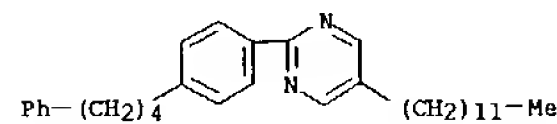
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CRN 159395-82-1
CMF C32 H50 N2



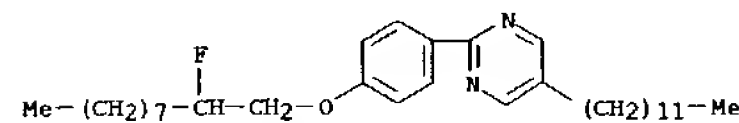
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CRN 159381-12-1
CMF C32 H44 N2



CM 4

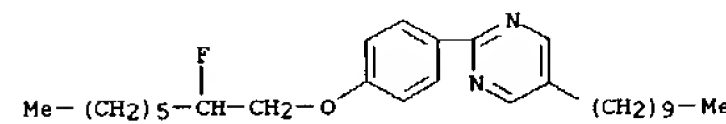
CRN 127484-78-0
CMF C32 H51 F N2 O



CM 5

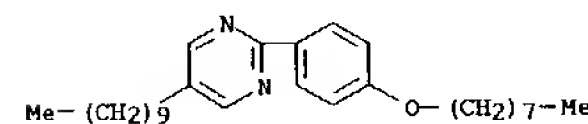
CRN 113701-90-9
CMF C28 H43 F N2 O

L9 ANSWER 429 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



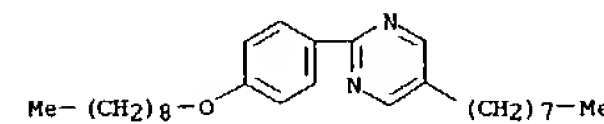
CM 6

CRN 57202-62-7
CMF C28 H44 N2 O



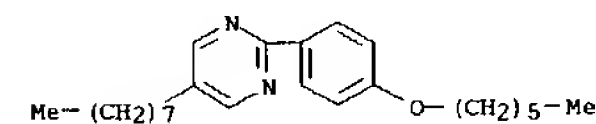
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CRN 57202-51-4
CMF C27 H42 N2 O



CM 8

CRN 57202-48-9
CMF C24 H36 N2 O



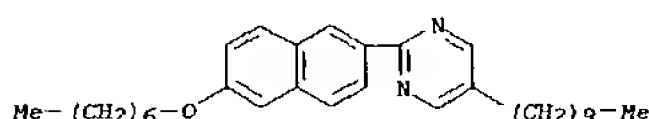
9/811, 359

09/835,523

L9 ANSWER 430 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:712205 CAPLUS
 DOCUMENT NUMBER: 121:312205
 TITLE: Liquid crystal compound and composition for displays
 INVENTOR(S): Sato, Masahiro; Watanabe, Tetsuya; Yoshio, Kuniko;
 Yanagi, Tatsuro
 PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06122648 | A2 | 19940506 | JP 1992-300439 | 19921012 |

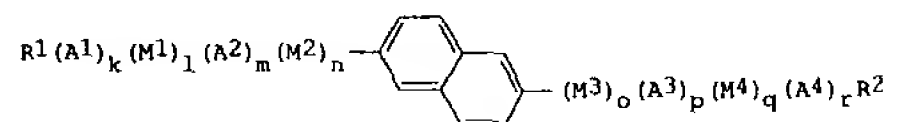
PRIORITY APPLN. INFO.: JP 1992-300439 19921012
 OTHER SOURCE(S): MARPAT 121:312205
 AB The title compound has the formula: R1-O-A1-C.tplbond.C-A2-COR2 [R1, R2 = C1-18 alkyl, A1, A2 = 1,4-phenylene containing 1-2 F]. The title composition contains 21 of the title compds. and has a relatively high smectic C* upper-limit temperature
 IT 155378-54-4
 RL: TEM (Technical or engineered material use); USES (Uses) (chiral smectic C liquid crystal compn, containing)
 RN 155378-54-4 CAPLUS
 CN Pyrimidine, 5-decyl-2-[6-(heptyloxy)-2-naphthalenyl]- (9CI) (CA INDEX NAME)



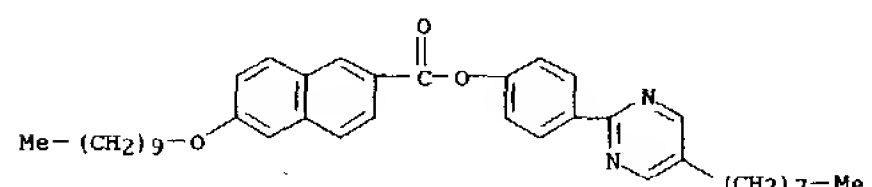
L9 ANSWER 431 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:712203 CAPLUS
 DOCUMENT NUMBER: 121:312203
 TITLE: Naphthalene derivatives and ferroelectric liquid-crystal mixtures and display devices containing them
 INVENTOR(S): Hornung, Barbara; Jungbauer, Dietmar; Manero, Javier; Schlosser, Hubert
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 16 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| DE 4240041 | A1 | 19940601 | DE 1992-4240041 | 19921128 |
| JP 06228057 | A2 | 19940816 | JP 1993-298381 | 19931129 |

PRIORITY APPLN. INFO.: DE 1992-4240041 19921128
 OTHER SOURCE(S): MARPAT 121:312203
 GI



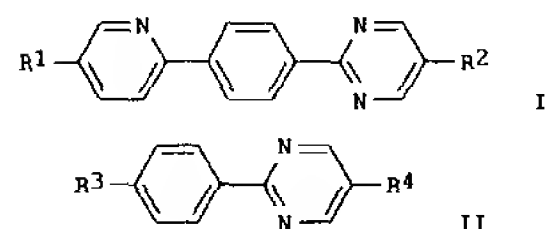
AB The compds. have the general formula I, where the chains on the naphthalene ring are mesogenic groups.
 IT 159256-51-6P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (preparation of; for ferroelec. liquid-crystal mixts. and display devices)
 RN 159256-51-6 CAPLUS
 CN 2-Naphthalenecarboxylic acid, 6-(decyloxy)-, 4-(5-octyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 432 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:712169 CAPLUS
 DOCUMENT NUMBER: 121:312169
 TITLE: Ferroelectric liquid crystal composition allowing fast response time and liquid crystal display device using same
 INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori; Nigorikawa, Kazunori; Yamada, Hisao
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06009961 | A2 | 19940118 | JP 1992-193431 | 19920625 |

PRIORITY APPLN. INFO.: JP 1992-193431 19920625
 OTHER SOURCE(S): MARPAT 121:312169
 GI



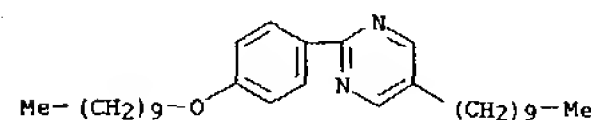
AB In the title composition comprising a chiral compound and an achiral compound, the chiral compound comprises I (R1, R2 = C2-16 alkyl, alkoxy; ≥1 non-adjacent methylene groups in R1 and R2 may be substituted by O) 5-60% and II (R3 = C5-15 alkyl; R4 = C9-15 alkyl) 5-50%. The orientation film of the title device shows a pretilt angle of ≥5° when the liquid crystal is in its SA phase and has an insulating layer having dielec. constant ≥5 between the transparent electrode and the alignment film of 1 or both supports.

IT 159252-30-9
 RL: USES (Uses) (achiral, for ferroelec. liquid crystal display)
 RN 159252-30-9 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-(decyloxy)phenyl]-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

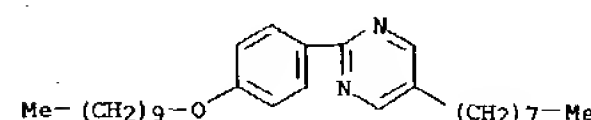
CM 1

CRN 57202-63-8
CMF C30 H48 N2 O

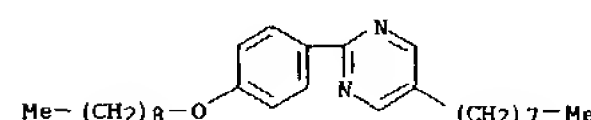
L9 ANSWER 432 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



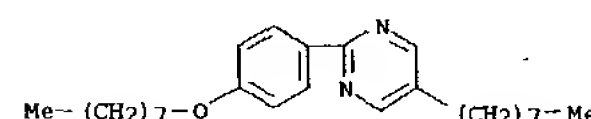
CM 2

CRN 57202-52-5
CMF C28 H44 N2 O

CM 3

CRN 57202-51-4
CMF C27 H42 N2 O

CM 4

CRN 57202-50-3
CMF C26 H40 N2 O

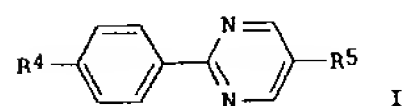
9/811, 359

09/ 835, 523

L9 ANSWER 433 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:712168 CAPLUS
 DOCUMENT NUMBER: 121:312168
 TITLE: Ferroelectric liquid crystal composition allowing fast response and liquid crystal display using same
 INVENTOR(S): Minami, Kazumori; Ichihashi, Mitsuyoshi; Oonaka, Takami; Ishizuka, Takahiro; Nigorikawa, Kazunori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

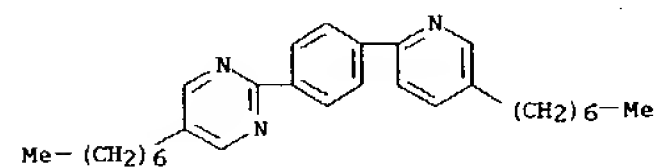
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06009960 | A2 | 19940118 | JP 1992-187623 | 19920622 |
| PRIORITY APPLN. INFO.: | | | JP 1992-187623 | 19920622 |

GI



AB In the title composition consisting of a chiral compd(s). and an achiral compd(s)., the chiral compd(s). contains R1AXpBYqZnOCH2CFH(CH2)mOR2 [A, B, Z = (halo-or CN-substituted) divalent aromatic hydrocarbyl, divalent alicyclic group, divalent heterocyclyl; X, Y = CH2O, OCH2, CO2, OCO, CH:CH, C.tplbond.C; R1 = (halo-substituted)alkyl, alkoxy; ≥1 nonadjacent methylene groups in R1 may be substituted by O, S, or CO; R2 = alkyl, alkenyl; n, p, q = 0, 1; m = 3-11] and the achiral compound contains I [R4, R5 = C1-16 alkyl]. The title device shows pre-tilt angle ≥5° with the liquid crystal composition in the SA phase and has an insulating layer with dielec. constant ≥5 between the transparent electrode and the alignment film of 1 or both supports.

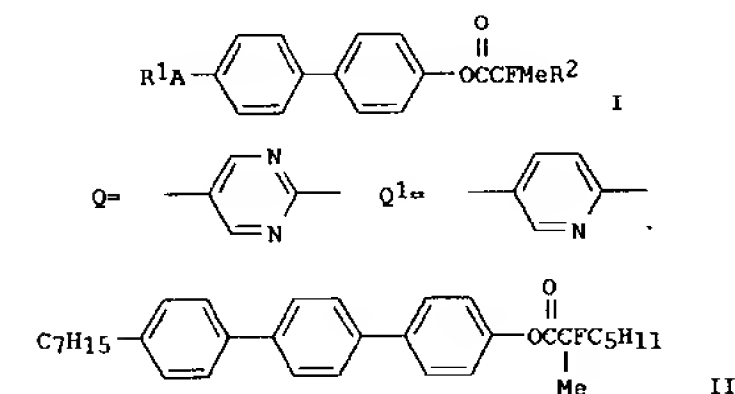
IT 154923-60-1
 RL: USES (Uses)
 (achiral composition, for ferroelec. liquid crystal composition)
 RN 154923-60-1 CAPLUS
 CN Pyrimidine, 5-heptyl-2-[4-(5-heptyl-2-pyridinyl)phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 434 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:689860 CAPLUS
 DOCUMENT NUMBER: 121:289860
 TITLE: Preparation of optically active biphenyl 2-fluoro-2-alkanoate derivative, liquid crystal composition containing the same, and optical switching device
 INVENTOR(S): Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Japan Enajii Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 06135894 | A2 | 19940517 | JP 1992-283057 | 19921021 |
| PRIORITY APPLN. INFO.: | | | JP 1992-283057 | 19921021 |
| OTHER SOURCE(S): | | MARPAT 121:289860 | | |

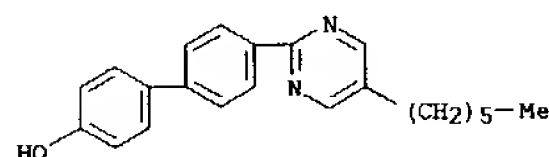
GI



AB The title compds. (I; R1, R2 = C2-18 alkyl; A = 1,4-phenylene, Q, Q1) and a liquid crystal composition containing ≥1 I are prepared. An optical switching device uses said liquid crystal composition. These esters have large spontaneous polarization, can take stable thermotropic liquid crystal state, provide ferroelec. liquid crystal compns. having chiral smectic C phase at wide temperature range including room temperature and fast response speed when they are added to optically inactive liquid crystals, and are useful as liquid crystal materials for displays of liquid crystal TV and optoelectronics-related devices such as optical printer head, optical Fourier transformation device, and light bulb using liquid crystals and electrochromism. Thus, 4''-heptyl-4-hydroxyterphenyl 0.64, 2-fluoro-2-methylheptanoic acid (80% a.e.) 0.30, DCC 0.46, 4-dimethylaminopyridine 0.04 g, 20 mL CH2Cl2 were stirred at room temperature overnight, filtered to remove a solid precipitated, evaporated, and purified by silica gel chromatog. to give title compound (II). A ferroelec. liquid crystal composition comprising 4 weight% II and 96 weight% smectic liquid crystal composition containing 5 phenylpyrimidine derivs. and phenylpyridyl benzoate derivative showed phase transition from smectic A to chiral smectic C at 51° and electrooptical response speed 105 μs in a liquid

L9 ANSWER 433 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 434 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 crystal cell.
 IT 159044-45-8, 5-Hexyl-2-(4'-hydroxybiphenyl)pyrimidine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (esterification of, with fluoromethylheptanoic acid)
 RN 159044-45-8 CAPLUS
 CN [1,1'-Biphenyl]-4-ol, 4'-(5-hexyl-2-pyrimidinyl)- (9CI) (CA INDEX NAME)



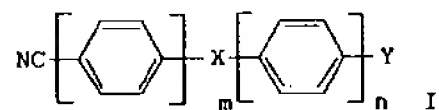
9/811, 359

09/ 835, 523

L9 ANSWER 435 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:689821 CAPLUS
 DOCUMENT NUMBER: 121:289821
 TITLE: liquid-crystal display device
 INVENTOR(S): Tani, Takeshi; Fujisawa, Koichi; Azumai, Takayuki;
 Minamii, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JXXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 06033060 | A2 | 19940208 | JP 1992-188204 | 19920715 |
| PRIORITY APPLN. INFO.: | | | JP 1992-188204 | 19920715 |
| OTHER SOURCE(S): | | MARPAT 121:289821 | | |

GI



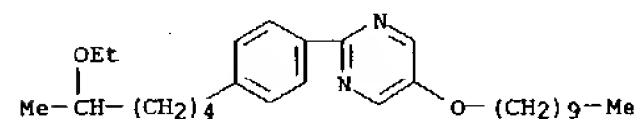
AB A liquid crystal composition suited for use in an electrooptical display device comprises a chiral smectic ferroelec. liquid crystal compound represented by the formula I (X = a single bond, CO2, or OCO; m, n = 1 or 2; Y = ZO(CO)SR; s = 0 or 1; R = C1-15 alkyl or C2-15 alkoxyalkyl; Z = (CH2)pC*HMe or C*HMe(CH)q; p = an integer of 0-6; q = an integer of 1-6; * = position of an unsym. C atom).

IT 158829-06-2
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal composition, for display devices)

RN 158829-06-2 CAPLUS
 CN Benzoic acid, 4-[1-(hexyloxy)ethyl]-, 4-cyanophenyl ester, (+)-, mixt. with 5-(decyloxy)-2-[4-(5-ethoxyhexyl)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

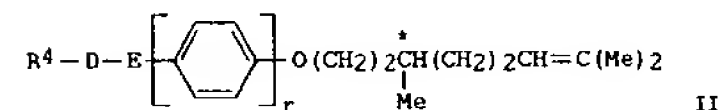
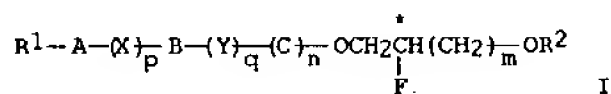
CRN 158829-05-1
 CMF C28 H44 N2 O2



L9 ANSWER 436 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:689814 CAPLUS
 DOCUMENT NUMBER: 121:289814
 TITLE: Ferroelectric liquid crystal composition and liquid crystal display
 INVENTOR(S): Minami, Kazumori; Ichihashi, Mitsuyoshi; Oonaka, Takami; Ishizuka, Takahiro; Shimazaki, Masato
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 73 pp.
 CODEN: JXXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06001978 | A2 | 19940111 | JP 1992-184604 | 19920618 |
| PRIORITY APPLN. INFO.: | | | JP 1992-184604 | 19920618 |

GI



AB The title liquid crystal composition contains a chiral compound I (A, B, C = halo, or (cyano-substituted) divalent aromatic or aliphatic hydrocarbon or heterocyclyl; X, Y = CH2O, OCH2, CO2, OCO, CH:CH, C.tplbond.C; R1 = (halo-substituted)alkyl or alkoxy(≥1 non-adjacent methine may be substituted with O, S, CO); R2 = alkyl, alkenyl; n, p, q = 0, 1; * represents asym. atom) or II (D = 1,4-cyclohexylene or 1,4-phenyl; E =, pyrimidinylene; R4 = C1-20 alkyl; r = 0, 1; * represents asym. atom). In the title liquid crystal display enclosing a liquid crystal between a pair of transparent electrode and orientation film-bearing substrates, the above liquid crystal composition is used, the orientation film shows pre-tilt angle ≥5° at SA phase of the above liquid crystal composition, and an insulative layer of specific inductive capacity ≥5 is placed between the transparent electrode and orientation film of at least 1 substrate. The liquid crystal display shows rapid response and good orientation property.

IT 155160-61-5
 RL: USES (Uses)
 (chiral, ferroelec. liquid crystal composition containing, for liquid crystal display)

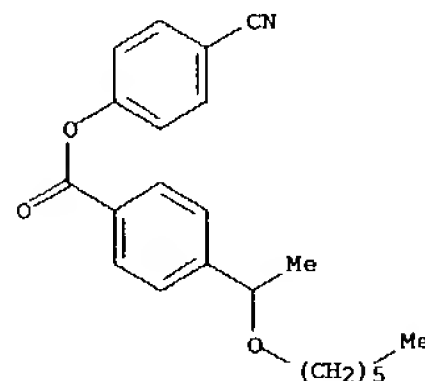
RN 155160-61-5 CAPLUS
 CN Pyrimidine, 2-[4-[(2-fluoro-7-methoxyheptyl)oxy]phenyl]-5-octyl-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

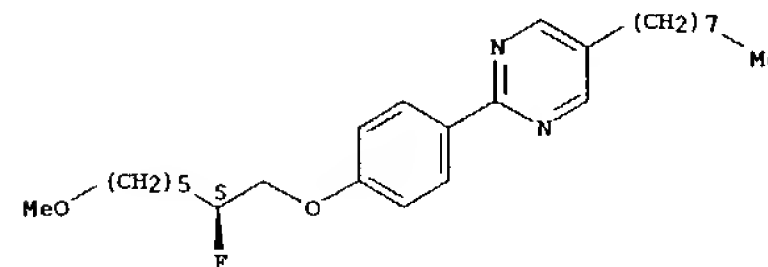
L9 ANSWER 435 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM 2

CRN 158829-04-0
 CMF C22 H25 N O3

Rotation (+).



L9 ANSWER 436 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



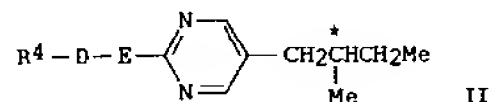
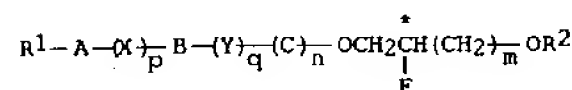
09/ 835,523

9/811,359

L9 ANSWER 437 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:689813 CAPLUS
 DOCUMENT NUMBER: 121:289813
 TITLE: Ferroelectric liquid crystal composition and liquid crystal display
 INVENTOR(S): Minami, Kazumori; Ichihashi, Mitsuyoshi; Oonaka, Takami; Ishizuka, Takahiro; Yamada, Hisao
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06001979 | A2 | 19940111 | JP 1992-185826 | 19920619 |
| PRIORITY APPLN. INFO.: | | | JP 1992-185826 | 19920619 |

GI



AB The title liquid crystal composition contains a chiral compound I (A, B, C = halo, or (cyano-substituted) divalent aromatic or aliphatic hydrocarbon or heterocyclyl; X, Y = CH₂O, OCH₂, CO₂, OCO, CH₂CH, C.tpbond.C; R¹ = halo, alkyl, alkoxy (≥1 non-adjacent methine may be substituted with O, S, CO); R² = alkyl, alkenyl; n, p, q = 0, 1; * represents asym. atom) or II (D, E = (1 or 2 F-containing)1,4-cyclohexylene or 1,4-Ph, pyridinylene; R⁴ = C1-20 alkyl; * represents asym. atom). In the title liquid crystal display enclosing a liquid crystal between a pair of transparent electrode and orientation film-bearing substrates, the above liquid crystal composition is used, the orientation film shows pre-tilt angle ≥5° at SA phase of the above liquid crystal composition, and an insulative layer of specific inductive capacity ≥5 is placed between the transparent electrode and orientation film of at least 1 substrate. The liquid crystal display shows rapid response and good orientation property.

IT 155160-61-5

RL: USES (Uses)

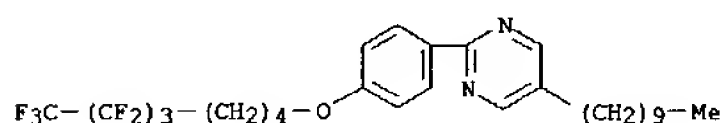
(chiral, ferroelec. liquid crystal composition containing, for liquid crystal display)

RN 155160-61-5 CAPLUS

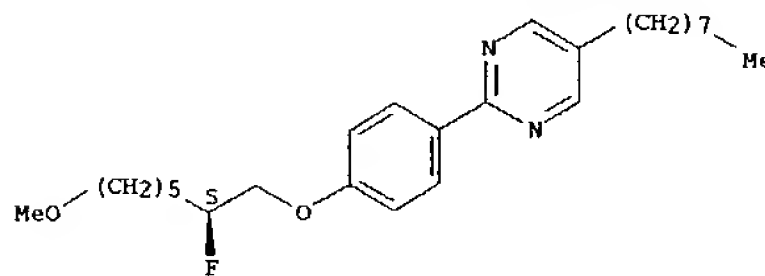
CN Pyrimidine, 2-[4-[(2-fluoro-7-methoxyheptyl)oxy]phenyl]-5-octyl-, (S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 438 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:689453 CAPLUS
 DOCUMENT NUMBER: 121:289453
 TITLE: Properties of ferroelectric liquid crystal mixtures containing fluorine substituted compounds
 AUTHOR(S): Sakaigawa, Akira; Nohira, Hiroyuki
 CORPORATE SOURCE: Fac. Eng., Saitama Univ., Urawa, 338, Japan
 SOURCE: Ferroelectrics (1993), 148(1-4), 71-8
 CODEN: FEROA8; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New chiral dopants having a perfluoroalkyl group have been synthesized for the ferroelec. liquid crystal (FLC) mixts. Some chiral dopants had liquid crystalline phases solely and the fast switching was observed while small spontaneous polarization (PS) value. The compound having a moderate number of fluorocarbon and hydrocarbon was found to have suitable properties as the chiral dopant.
 IT 158361-34-3
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (electrooptical properties of ferroelec. liquid crystal mixts. containing chiral dopants having a perfluoroalkyl group)
 RN 158361-34-3 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(5,5,6,6,7,7,8,8,8-nonafluorooctyl)oxy]phenyl]- (9CI) (CA INDEX NAME)

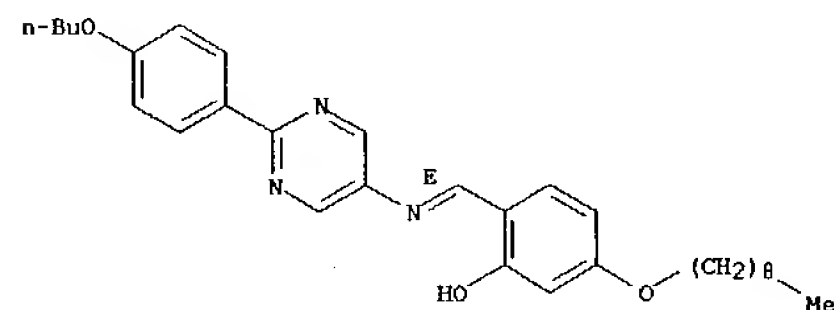


L9 ANSWER 437 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 439 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:668385 CAPLUS
 DOCUMENT NUMBER: 121:268385
 TITLE: Synthesis and liquid crystalline properties of structure stabilized anil-type derivatives of 5-amino-2-arylpyrimidines
 AUTHOR(S): Mikhaleva, M. A.; Serebryakova, E. S.; Loseva, M. V.
 CORPORATE SOURCE: Novosib. Inst. Org. Khim., Novosibirsk, 630090, Russia
 SOURCE: Khimiya Geterotsiklicheskih Soedinenii (1994), (1), 93-5
 CODEN: KGSSAQ; ISSN: 0132-6244
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Alkoxy-substituted 5-salicylideneamino-2-phenylpyrimidines were prepared and their liquid crystals studied and compared with the benzylidene derivs. For several compds. the heats of transition were also determined
 IT 158633-38-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and liquid crystal properties of)
 RN 158633-38-6 CAPLUS
 CN Phenol, 2-[[[2-(4-butoxyphenyl)-5-pyrimidinyl]imino]methyl]-5-(nonyloxy)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



09/835,523

9/811,359

L9 ANSWER 440 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:642025 CAPLUS
 DOCUMENT NUMBER: 121:242025
 TITLE: Nematic liquid-crystal phases and electrooptical display devices containing them
 INVENTOR(S): Reiffenrath, Volker; Krause, Joachim; Geelhaar, Thomas; Eidenschink, Rudolf; Kurmeier, Hans-Adolf; Poetsch, Eike; Scheuble, Bernhard; Weber, Georg
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: U.S., 10 pp. Cont.-in-part of U.S. 4,871,469.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| US 5318721 | A | 19940607 | US 1989-389713 | 19890804 |
| DE 3614778 | A1 | 19871105 | DE 1986-3614778 | 19860502 |
| US 4871469 | A | 19891003 | US 1988-154254 | 19880104 |
| PRIORITY APPLN. INFO.: | | | DE 1986-3614778 | 19860502 |
| | | | US 1988-154254 | 19880104 |
| | | | WO 1987-EP218 | 19870422 |

OTHER SOURCE(S): MARPAT 121:242025

AB The invention relates to the use of trifluorotoluene derivs. of the formula $R_1(C_6H_{10})_nCOOC_6H_4CF_3$, where $R_1 = C_1-12$ alkyl and $n = 1$ or 2 , as components of chiral tilted smectic phases. These phases are useful as dielects. in electrooptical display devices.

IT 158513-24-7

RL: MSC (Miscellaneous)
 (liquid crystal, for electrooptical display devices)

RN 158513-24-7 CAPLUS

CN Benzoic acid, 4-[[4-(5-nonyl-2-pyrimidinyl)phenoxy]methyl]-, 2-chlorooctyl ester, mixt. with 5-heptyl-2-[4-[(4-hexylphenyl)methoxy]phenyl]pyrimidine, 2-[4-[(4-heptylphenyl)methoxy]phenyl]-5-nonylpyrimidine, 5-heptyl-2-[4-[(4-pentylphenyl)methoxy]phenyl]pyrimidine, (R)-4-(5-hexyl-2-pyrimidinyl)phenyl 2-chloropropanoate, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-[(4-pentylphenyl)methoxy]phenyl]pyrimidine, 5-nonyl-2-[4-[(4-trifluoromethyl)phenyl)methoxy]phenyl]pyrimidine and [1(R)-cis]-4-[4'-(octyloxy)[1,1'-biphenyl]-4-yl]- α -propylcyclohexanecarbonitrile (9CI) (CA INDEX NAME)

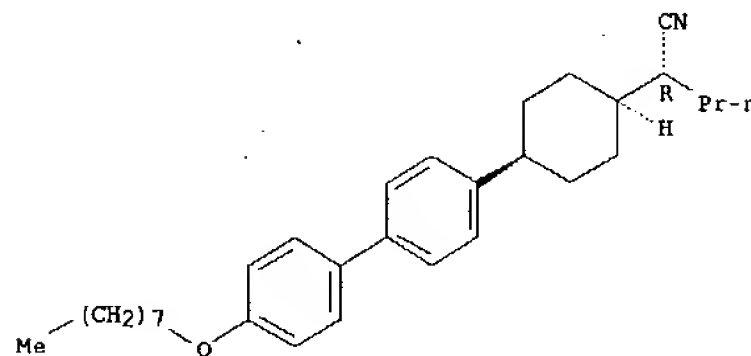
CM 1

CRN 158513-23-6

CMF C31 H43 N O

Absolute stereochemistry.

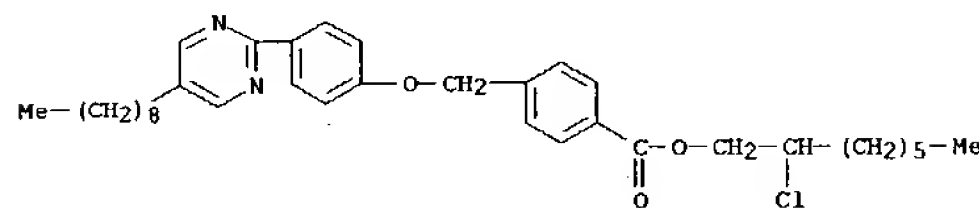
L9 ANSWER 440 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 2

CRN 158401-85-5

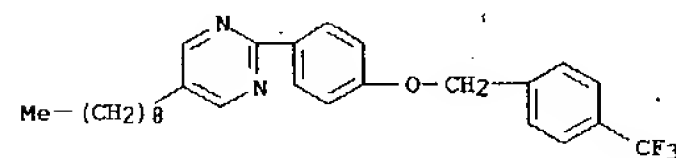
CMF C35 H47 Cl N2 O3



CM 3

CRN 113743-12-7

CMF C27 H31 F3 N2 O

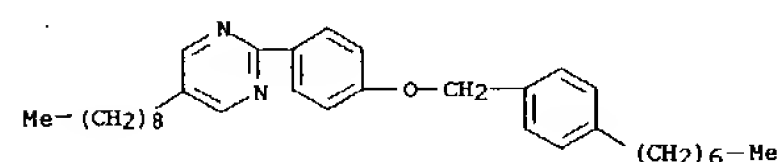


CM 4

CRN 108552-52-9

CMF C33 H46 N2 O

L9 ANSWER 440 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

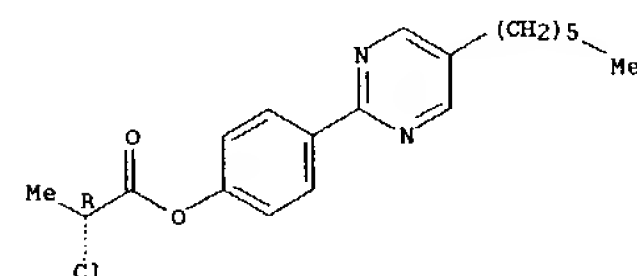


CM 5

CRN 106794-54-1

CMF C19 H23 Cl N2 O2

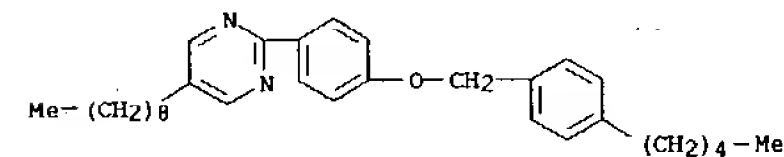
Absolute stereochemistry.



CM 6

CRN 106794-40-5

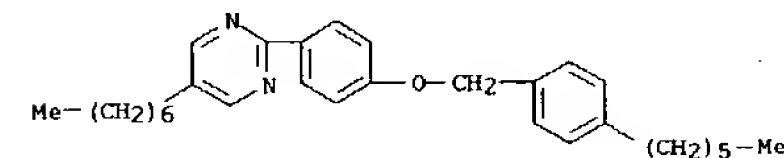
CMF C31 H42 N2 O



CM 7

CRN 106349-54-6

CMF C30 H40 N2 O

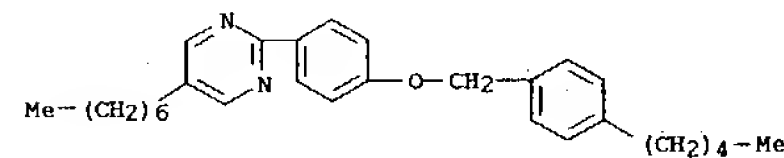


L9 ANSWER 440 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 8

CRN 106349-53-5

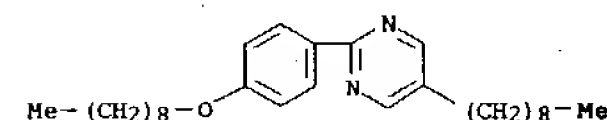
CMF C29 H38 N2 O



CM 9

CRN 99895-85-9

CMF C28 H44 N2 O



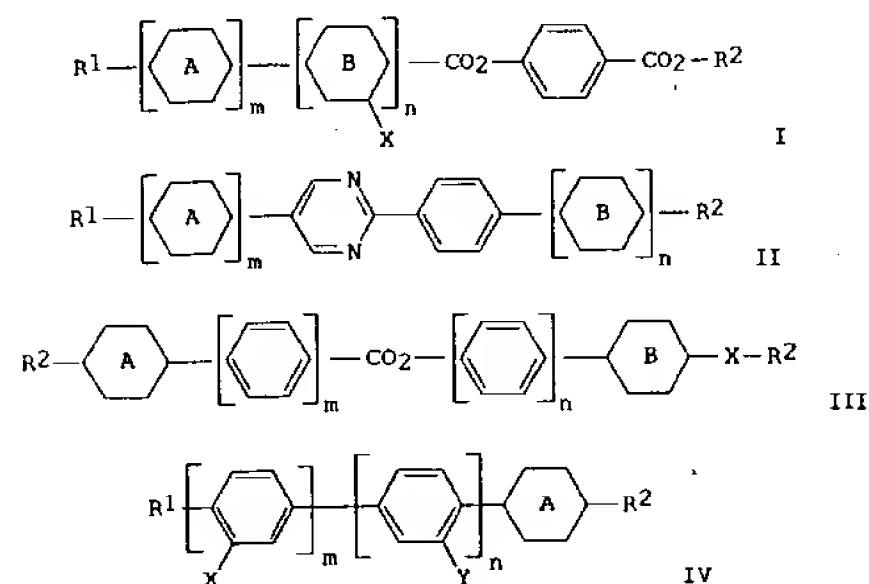
9/811, 359

09/ 835, 523

L9 ANSWER 441 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:641964 CAPLUS
 DOCUMENT NUMBER: 121:241964
 TITLE: Ferroelectric liquid crystal display device with improved high contrast
 INVENTOR(S): Kido, Masami; Shiomi, Makoto; Koden, Mitsuhiro.
 PATENT ASSIGNEE(S): Sharp Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 06003705 | A2 | 19940114 | JP 1992-158035 | 19920617 |
| PRIORITY APPLN. INFO.: | | | JP 1992-158035 | 19920617 |

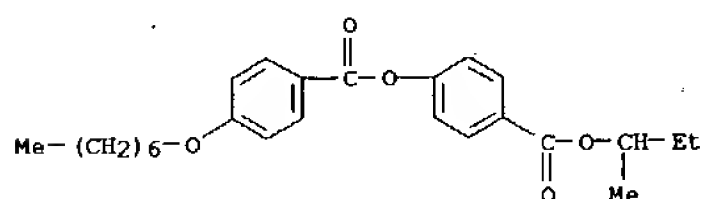
GI



AB In the title device, the liquid crystals show chevron structure in chiral smectic C phase, the orientation area, which is generated by mutual relations between the uniaxial direction (in parallel to substrate surface) of the orientation film and the structure of the liquid crystal layer, is located inside or outside of a connected pair of a lightning defect and a hairpin defect (zigzag defect), the orientation state is uniform, and the liquid crystal layer comprises ≥ 1 of I, I and II, I and III, or I and IV [R¹, R² = C 1-15 alkyl, alkoxy; A, B = phenylene, cyclohexylene, naphthylene, X = H, F, but X in III is O, CO, or single bond; Y = F; m, n = 0, 1]. The pretilt angle of the liquid crystals on the orientation film is $\geq 8^\circ$.

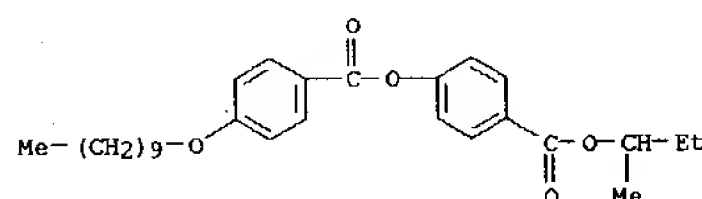
IT 158348-45-9

L9 ANSWER 441 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



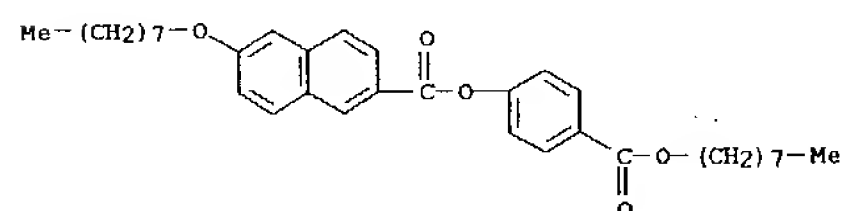
CM 4

CRN 144485-05-2
 CMF C28 H38 O5



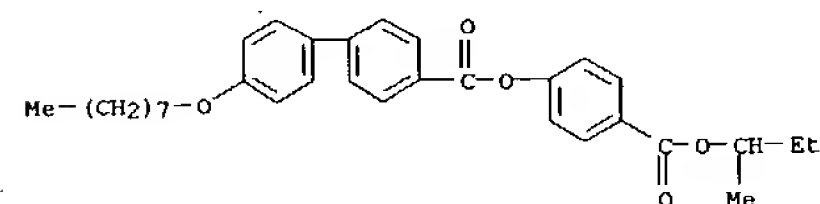
CM 5

CRN 142494-08-4
 CMF C34 H44 O5



CM 6

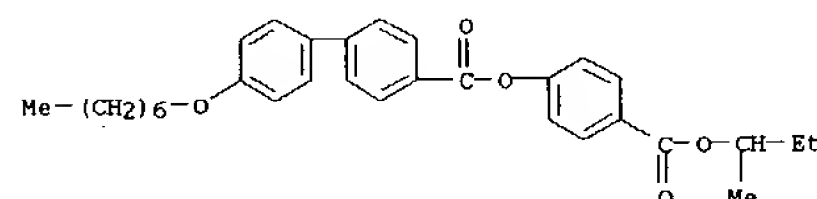
CRN 138224-60-9
 CMF C32 H38 O5



L9 ANSWER 441 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 RL: DEV (Device component use); USES (Uses)
 (chiral smectic C, chevron-structured; ferroelec. liq. crystal display device with improved high contrast)
 RN 158348-45-9 CAPLUS
 CN 2-Naphthalenecarboxylic acid, 6-(octyloxy)-, 4-[(octyloxy)carbonyl]phenyl ester, mixt. with 4-[(1-methylpropoxy)carbonyl]phenyl 4-(decyloxy)benzoate, 4-[(1-methylpropoxy)carbonyl]phenyl 4-(heptyloxy)benzoate, 4-[(1-methylpropoxy)carbonyl]phenyl 4'-(heptyloxy)[1,1'-biphenyl]-4-carboxylate, 4-[(1-methylpropoxy)carbonyl]phenyl 4-(nonyloxy)benzoate, 4-[(1-methylpropoxy)carbonyl]phenyl 4-(octyloxy)benzoate, 4-[(1-methylpropoxy)carbonyl]phenyl 4'-(octyloxy)[1,1'-biphenyl]-4-carboxylate and 5-(4-octylphenyl)-2-[4-(pentyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

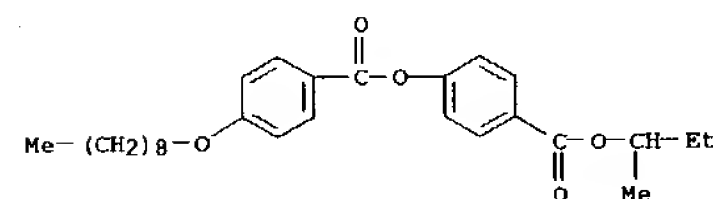
CM 1

CRN 158348-43-7
 CMF C31 H36 O5



CM 2

CRN 158348-42-6
 CMF C27 H36 O5



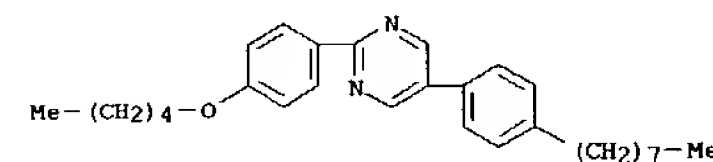
CM 3

CRN 158348-41-5
 CMF C25 H32 O5

L9 ANSWER 441 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

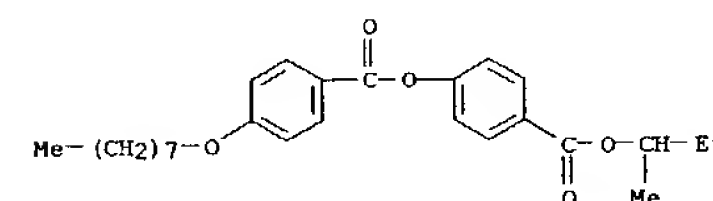
CM 7

CRN 135331-20-3
 CMF C29 H38 N2 O



CM 8

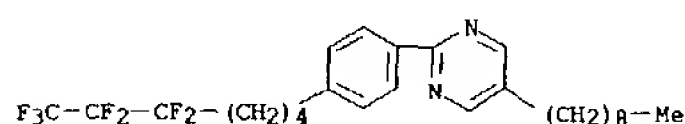
CRN 126353-57-9
 CMF C26 H34 O5



9/811,359

09/835,523

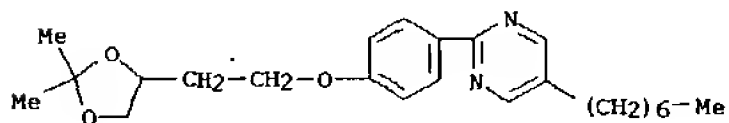
L9 ANSWER 442 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:640719 CAPLUS
 DOCUMENT NUMBER: 121:240719
 TITLE: Unique electric field dependence of apparent tilt angle in ferroelectric liquid crystal mixtures consisting of fluorine-substituted compounds
 AUTHOR(S): Sakaigawa, Akira; Yokoi, Sachiko; Nohira, Hiroyuki
 CORPORATE SOURCE: Fac. Eng., Saitama Univ., Urawa, 338, Japan
 SOURCE: Japanese Journal of Applied Physics, Part 2: Letters (1994), 33(8A), L1103-L1105
 CODEN: JAPLDB; ISSN: 0021-4922
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New ferroelec. liquid crystal mixts. having perfluoroalkyl groups were prepared. Apparent tilt angles of these mixts. largely depended on the elec. field. The tilt angle increased linearly under elec. field in the range from 0 to 12 V, and decreased under higher elec. field over 12 V. The mechanism of this θ -V property has been proposed and a new light-modulator has been designed using the linear dependence of the tilt angles on the elec. field.
 IT 158361-33-2
 RL: PRP (Properties)
 (elec. field dependence of apparent tilt angle in ferroelec. liquid crystal mixts. consisting of fluorine-substituted compds.)
 RN 158361-33-2 CAPLUS
 CN Pyrimidine, 2-[4-(5,5,6,6,7,7,7-heptafluoroheptyl)phenyl]-5-nonyl- (9CI) (CA INDEX NAME)



L9 ANSWER 443 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:618293 CAPLUS
 DOCUMENT NUMBER: 121:218293
 TITLE: Improvement of Thermotropic Liquid Crystallinity by Incorporation of Unsaturated Fatty Alcohol Tail Units
 AUTHOR(S): Dyer, Daniel J.; Walba, David M.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO, 80309-0215, USA
 SOURCE: Chemistry of Materials (1994), 6(8), 1096-8
 CODEN: CHATEX; ISSN: 0897-4756
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB It is well known that cis unsatn. dramatically lowers the m.p.s. of naturally occurring fatty acids and their glycerol esters, and the transition temps. of related lyotropic liquid crystals. Surprisingly, incorporation of unsatd. fatty acid units for control of melting and transition temps. has hardly been explored in thermotropic liquid crystals (LCs). A preliminary study on the effect of unsatd. fatty acid-derived tails on mesogenicity in 3 thermotropic LC systems is reported. In these systems unsatd. 18-C alkoxy tails possessing one or more cis double bonds (derived from oleic, linoleic and linolenic acids) not only afford lowered m.p.s. relative to mesogens possessing optimum saturated alkoxy tails, but the enantiotropic LC phase ranges of the new materials is also significantly broadened in every case.
 IT 158175-22-5
 RL: PRP (Properties)
 (thermotropic liquid crystal improvement by incorporation of unsatd. fatty alc. tail units)
 RN 158175-22-5 CAPLUS
 CN Pyrimidine, 5-nonyl-2-[4-(octadecyloxy)phenyl]- (9CI) (CA INDEX NAME)

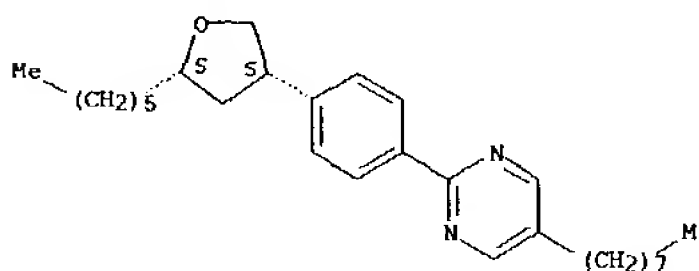


L9 ANSWER 444 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:618279 CAPLUS
 DOCUMENT NUMBER: 121:218279
 TITLE: Bulk properties and monolayer behavior of diol-based mesogens and their acetonides
 AUTHOR(S): Joachimi, Detlev; Tschierske, Carsten; Oehlmann, Andre; Rettig, Willi
 CORPORATE SOURCE: Institute Organic Chemistry, Martin-Luther-Univ. Halle-Wittenberg, Halle, D-06015, Germany
 SOURCE: Journal of Materials Chemistry (1994), 4(7), 1021-7
 CODEN: JMACEP; ISSN: 0959-9428
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Amphiphilic 1,2-diol derivs. and their acetonides, incorporating rigid aromatic structural units, were prepared. They exhibit liquid-crystalline behavior and form stable monolayers at the air/H2O interface. The force-area isotherms obtained depend largely on the chemical structure of the rigid core.
 IT 158092-25-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and liquid crystal properties and monolayer formation at air/H2O interface of)
 RN 158092-25-2 CAPLUS
 CN Pyrimidine, 2-[4-(2-(2,2-dimethyl-1,3-dioxolan-4-yl)ethoxy)phenyl]-5-heptyl- (9CI) (CA INDEX NAME)



L9 ANSWER 445 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:618276 CAPLUS
 DOCUMENT NUMBER: 121:218276
 TITLE: New chiral dopants for FLC materials: optically active cyclic ethers
 AUTHOR(S): Takehara, Sadao; Osawa, Masashi; Nakamura, Kayoko; Kusumoto, Tetsuo; Sato, Kenichi; Nakayama, Akiko; Miyama, Tamejiro
 CORPORATE SOURCE: Dainippon Ink and Chem., Inc., Ina, 362, Japan
 SOURCE: Ferroelectrics (1993), 148(1-4), 195-202
 CODEN: FERQAB; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A series of new optically active cyclic ethers such as tetrahydrofurans, chromans and dihydrobenzofurans were synthesized, and their phys. properties as a chiral dopant for FLC were investigated. Correlation between the chemical structures and the phys. properties, especially spontaneous polarization (Ps), are discussed and compared with that of the corresponding lactones.
 IT 157790-46-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as chiral dopant for ferroelec. liquid crystals)
 RN 157790-46-0 CAPLUS
 CN Pyrimidine, 2-[4-(5-hexyltetrahydro-3-furanyl)phenyl]-5-octyl-, (3S-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



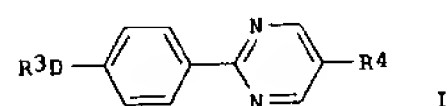
9/8/11, 359

097-835,523

L9 ANSWER 446 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:617774 CAPLUS
 DOCUMENT NUMBER: 121:217774
 TITLE: ferroelectric liquid crystal composition
 INVENTOR(S): Oonaka, Takami; Ichihashi, Mitsuyoshi; Minami, Kazumori; Yamada, Hisao; Ishizuka, Takahiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
 CODEN: JXXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

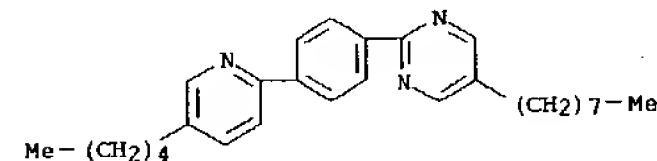
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05339576 | A2 | 19931221 | JP 1992-174689 | 19920609 |
| | | | JP 1992-174689 | 19920609 |

PRIORITY APPLN. INFO.:
 GI



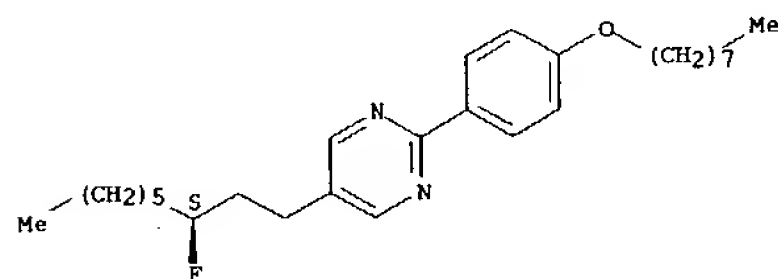
AB A ferroelec. liquid crystal composition having excellent orientation and bistability and suited for use in a fast-response electrooptical display device comprises a chiral compound having the formula
 $R1A(X)pB(Y)q(Z)nOCH_2C^*HF(CH_2)mOR_2$ (A, B, Z = a divalent aromatic, alicyclic, or heterocyclic group; X, Y = CH_2O , OCH_2 , CO_2 , OCO , $CH=CH$, or C.tplbond.C; R1 = alkyl or alkoxy; R2 = alkyl or alkenyl; m = an integer of 3-11; n, p, q = 0 or 1; * indicates the position of an unsym. C atom) and a nonchiral compound having the formula I [D = 2,5-pyrimidinylene; k = 0, 1, or 2; R3, R4 = C1-20 (branched) alkyl, alkoxy, C1-20 alkoxyalkyl, or OH].

IT 154923-64-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (ferroelec. liquid crystal comps. containing, for electrooptical display devices)
 RN 154923-64-5 CAPLUS
 CN Pyrimidine, 5-octyl-2-[4-(5-pentyl-2-pyridinyl)phenyl]- (9CI) (CA INDEX NAME)

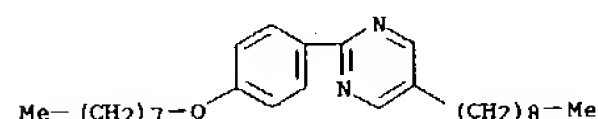


L9 ANSWER 447 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 phase transition SC*-SA at 58.5° and good contrast and response speed 37 μs at 25° by impressing 50 MHz square wave at elec. field strength 10 Vp-p/μm in a liq. crystal cell.
 IT 157980-12-6
 RL: DEV (Device component use); USES (Uses)
 (liquid crystal composition with chiral smectic C phase for display)
 RN 157980-12-6 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-ethyl-, mixt. with (S)-5-(3-fluorononyl)-2-[4-(octyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 152291-79-7
 CMF C27 H41 F N2 O

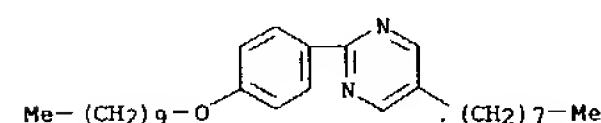
Absolute stereochemistry.



CM 2
 CRN 57202-58-1
 CMF C27 H42 N2 O



CM 3
 CRN 57202-52-5
 CMF C28 H44 N2 O

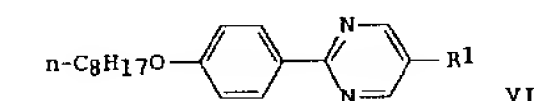
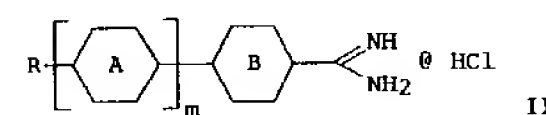
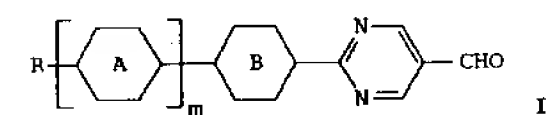


CM 4

L9 ANSWER 447 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:605380 CAPLUS
 DOCUMENT NUMBER: 121:205380
 TITLE: Preparation of 5-formylpyrimidine derivatives as intermediates for liquid crystals
 INVENTOR(S): Takehara, Sadao; Takatsu, Haruyoshi; Hyama, Tamejiro; Kusumoto, Tetsuo
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JXXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

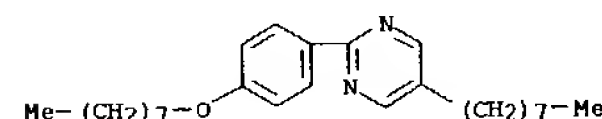
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06157475 | A2 | 19940603 | JP 1992-310097 | 19921119 |
| | | | JP 1992-310097 | 19921119 |

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): CASREACT 121:205380; MARPAT 121:205380
 GI

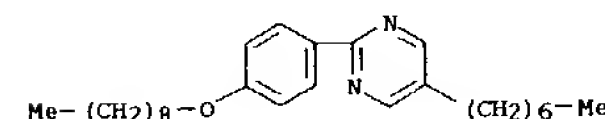


AB The title compds. [I: R = halo, (un)substituted C1-18 alkyl or alkoxy; ring A = 1,4-phenylene or trans-1,4-cyclohexylene optionally substituted by F atom; m = 0,1; ring B = 1,4-phenylene optionally substituted by F atom] are prepared by cyclocondensation of benzamidine or cyclohexanecarboxamide derivs. (II; R, ring A and B = same as above) with triformylmethane (OHC)2C:CHOH (III) or (dimethylaminomethylene)malonaldehyde (OHC)2C:CHNMe2 (IV). I are useful as intermediates for 5-substituted 2-phenylpyrimidine derivs. which are hitherto difficult to prepare. Thus, a solution of NaOMe in MeOH (prepared from 2.5 Na and 100 mL MeOH) was added to 2.1 g 4-octyloxybenzamidine hydrochloride (V) and 1.5 III and the resulting mixture was refluxed for 13 h to give, after silica gel chromatog., 1.2 g title compound (VI; R1 = CHO). This was similarly obtained in 91% yield by cyclocondensation of V with IV and further converted into optically active liquid crystal VI [R = (S)-CH2CH2CHF(CH2)5Me] (VII) which showed phase transition Cr-SA and SA-I at 74° and 82°, resp. A liquid crystal composition comprising 20% VII and a mixture of 4 phenylpyrimidine derivs. (80%) showed

L9 ANSWER 447 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CRN 57202-50-3
 CMF C26 H40 N2 O



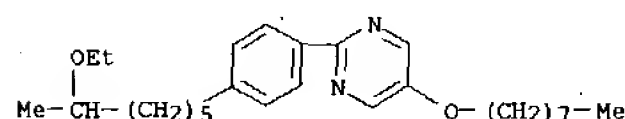
CM 5
 CRN 57202-40-1
 CMF C26 H40 N2 O



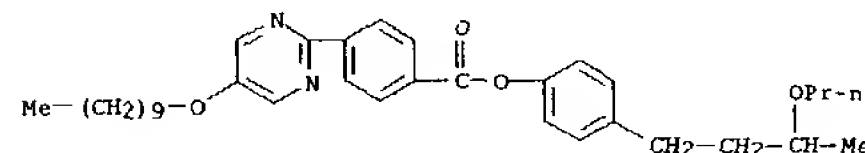
9/811, 359

09/ 835,523

L9 ANSWER 448 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:592079 CAPLUS
 DOCUMENT NUMBER: 121:192079
 TITLE: Physical properties of novel biphenyl and phenylpyrimidine type ferroelectric liquid crystals
 AUTHOR(S): Ueda, Kayoko; Sekine, Chizu; Tani, Takeshi; Fujisawa, Koichi; Higashii, Takayuki; Kurimoto, Isao; Toda, Shoji; Takano, Naoyuki; Fujimoto, Yukari; Minai, Masayoshi
 CORPORATE SOURCE: Tsukuba Res. Lab., Sumitomo Chem. Co. Ltd., Tsukuba, 300-32, Japan
 SOURCE: Ferroelectrics (1993), 148(1-4), 213-22
 CODEN: FEROA8; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A relationship between mol. structures and phys. properties of novel biphenyl and phenylpyrimidine derivs. (C_nH_{2n+10}-X-C₆H₄-(CH₂)_lCH(CH₃)OC_nH_{2n+1}, X= C₆H₄ or pyrimidinyl) is reported. These compds. have methylene chain directly linked to the core aromatic ring. The C number of alkyl chain has much influence on phase sequence, ferroelec. properties and helical pitch in induced cholesteric phase. The phenylpyrimidine derivs. showed wider temperature range of Sc* phase compared with the biphenyl derivs.
 IT 157790-09-5
 RL: PRP (Properties)
 (liquid crystal, ferroelec. properties and helical pitch of induced cholesteric)
 RN 157790-09-5 CAPLUS
 CN Pyrimidine, 2-[4-(6-ethoxyheptyl)phenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME)

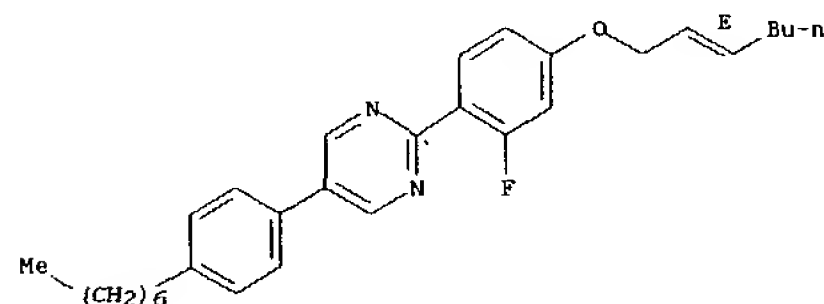


L9 ANSWER 449 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:592078 CAPLUS
 DOCUMENT NUMBER: 121:192078
 TITLE: Physical properties of new phenylpyrimidine type ferroelectric liquid crystals
 AUTHOR(S): Sekine, Chizu; Tani, Takeshi; Ueda, Kayoko; Fujisawa, Koichi; Higashii, Takayuki; Kurimoto, Isao; Toda, Shoji; Takano, Naoyuki; Fujimoto, Yukari; Minai, Masayoshi
 CORPORATE SOURCE: Tsukuba Res. Lab., Sumitomo Chem. Co., Ltd., Tsukuba, 300-32, Japan
 SOURCE: Ferroelectrics (1993), 148(1-4), 203-12
 CODEN: FEROA8; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New phenylpyrimidine type ferroelec. liquid crystals 4-(5-alkoxy-2-pyrimidinyl)phenyl ester of p-alkoxyalkylbenzoic acids and p-alkoxyalkylphenyl ester of 4-(alkoxy-2-pyrimidinyl)benzoic acids were synthesized and their mesomorphic and phys. properties were studied. These compds. have chiral C directly linked to core part or methylene unit between chiral C and core aromatic ring. The internal methylene unit stabilizes liquid crystal phases thermally without increasing rotational viscosity. Sign of spontaneous polarization, twist sense of cholesteric phase and smectic C* phase do not exhibit odd-even effect concerned with internal methylene chain length.
 IT 157790-27-7
 RL: PRP (Properties)
 (ferroelec. liquid crystal, phase behavior of)
 RN 157790-27-7 CAPLUS
 CN Benzoic acid, 4-[5-(decyloxy)-2-pyrimidinyl]-, 4-(3-propoxybutyl)phenyl ester (9CI) (CA INDEX NAME)



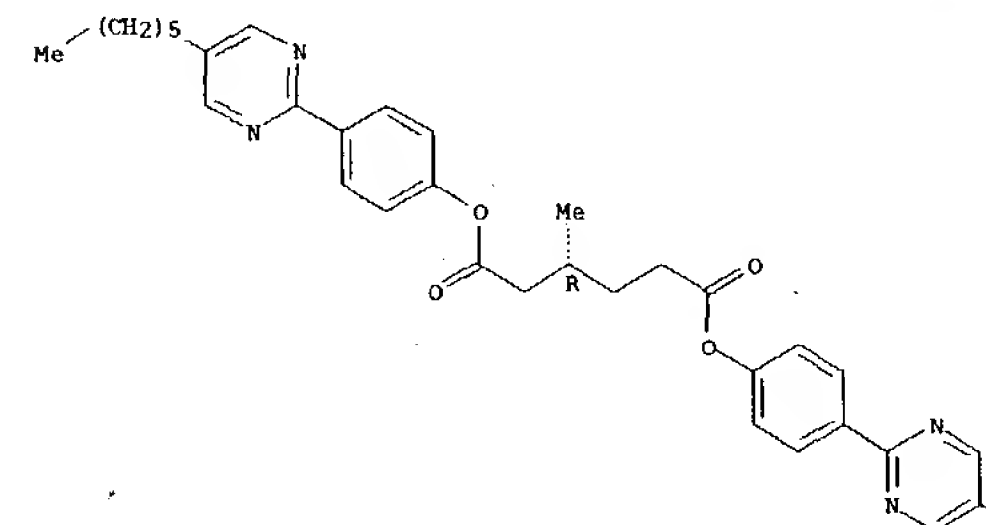
L9 ANSWER 450 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:592077 CAPLUS
 DOCUMENT NUMBER: 121:192077
 TITLE: Components for host mixtures of FLC
 AUTHOR(S): Takehara, Sadao; Osawa, Masashi; Nakamura, Kayoko; Kuriyama, Takeshi
 CORPORATE SOURCE: Dainippon Ink and Chem., Inc., Ina, 362, Japan
 SOURCE: Ferroelectrics (1993), 148(1-4), 185-93
 CODEN: FEROA8; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Some liquid crystal materials are presented and discussed useful to improve the phys. properties of a host mixture for ferroelec. liquid crystals (FLC), for example, their temperature range, phase sequences, viscosity and response time.
 IT 155778-39-5
 RL: PRP (Properties)
 (liquid crystal properties of, as component for host mixts. of ferroelec. liquid crystals)
 RN 155778-39-5 CAPLUS
 CN Pyrimidine, 2-[2-fluoro-4-(2-heptenyloxy)phenyl]-5-(4-heptylphenyl)-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

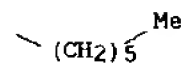


L9 ANSWER 451 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:592072 CAPLUS
 DOCUMENT NUMBER: 121:192072
 TITLE: Strong helical structures produced by dimeric liquid crystals possessing the chiral center in the central region of the molecular structure
 AUTHOR(S): Nishiyama, Isa; Ishizuka, Hidemi; Yoshizawa, Atsushi
 CORPORATE SOURCE: Pet. Lab., Nikko Kyodo Co., Ltd., Toda, 335, Japan
 SOURCE: Ferroelectrics (1993), 147(1-4), 193-204
 CODEN: FEROA8; ISSN: 0015-0193
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Three types of chiral dimers, (R)-3-methyladipic acid bis[4-(5-alkyl-2-pyrimidinyl)phenyl] esters, (R)-3-methyladipic acid bis[4-(4-octylphenylcarbonyloxy)phenyl] ester and (R)-3-methyladipic acid bis[4-(octyloxyphenyl) ester], were prepared and helical macrostructures induced in cholesteric (Ch) and chiral smectic C (SmC*) phases by these chiral dimers investigated and compared to those created by an analogous chiral monomer. The effect of the core structures for chiral dimers and SmC hosts on the generation of helical macrostructures were also investigated. Matching of the core structures between chiral dimers and SmC hosts has a significant effect on the formation of strong helical macrostructures in the SmC* phases.
 IT 155854-30-1
 RL: PRP (Properties)
 (liquid crystal mixture containing, helical structures of)
 RN 155854-30-1 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-hexyl-2-pyrimidinyl)phenyl] ester, (3R)- (9CI) (CA INDEX NAME)

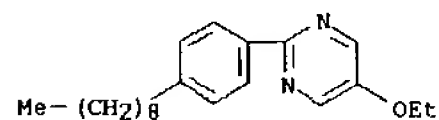
Absolute stereochemistry.



PAGE 1-A

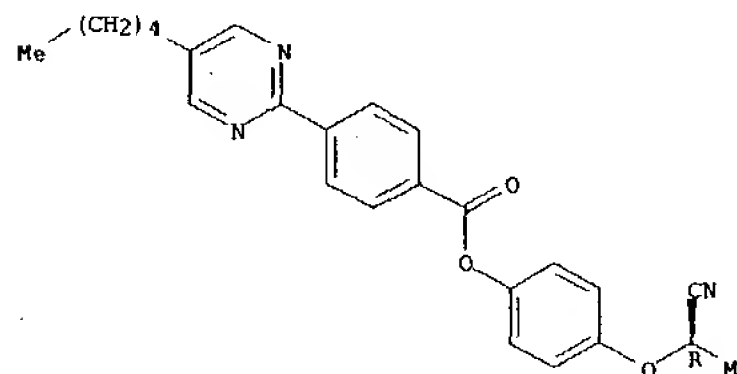


L9 ANSWER 453 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:592053 CAPLUS
DOCUMENT NUMBER: 121:192053
TITLE: 2-(4-alkylphenyl)-5-(alkenyl)pyrimidines: synthesis, liquid crystal transition temperatures and some physical properties
AUTHOR(S): Kelly, S. M.; Funtschilling, J.; Villiger, A.
CORPORATE SOURCE: Dep. RLCR, F. Hoffmann-La Roche Ltd., Basle, CH-4002, Switz.
SOURCE: Liquid Crystals (1994), 16(5), 813-29
CODEN: LICRE6; ISSN: 0267-8292
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Recently the introduction of a C-C double bond into a wide variety of 5-alkyl-2-(4-alkoxyphenyl)pyrimidines to produce the corresponding alkenyl derivs. was reported. The position and nature (E/Z) of the double bond were varied systematically and the effect on the liquid crystal transition temps. studied. The position and nature (E/Z) of the double bond changed the conformation of the alkenyl chain substantially. This resulted in higher smectic C and nematic transition temps. for compds. with a trans-double bond (E) at an even number of C atoms from the mol. core. Significantly lower transition temps. (including the m.p.) were observed for materials with a cis-double bond (Z) at an odd number of C atoms from the mol. core. Now the same operation was performed on the related 2-(4-alkylphenyl)-5-alkoxy-pyrimidines to produce the corresponding alkenyl derivs. An interesting feature of the new results is the high m.p.s. of the trans-substituted materials and the low m.p.s. of the terminally substituted compds. The smectic C transition temps. of both series are high. No nematic phases could be observed. However, in admixt. with other smectic C components, the new compds. lead to surprisingly fast switching times, high smectic C transition temps. and low m.p.s./crystallization temps. in exptl. mixts. designed for electrooptic display devices based on ferroelec. effects.
IT 157784-73-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
RN 157784-73-1 CAPLUS
CN Pyrimidine, 5-ethoxy-2-(4-nonylphenyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 452 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:592066 CAPLUS
DOCUMENT NUMBER: 121:192066
TITLE: the influence of the liquid crystalline core geometry on the mesogenicity of novel chiral 2-(4-substituted-phenoxy)propanonitriles
AUTHOR(S): Booth, Christopher J.; Goodby, John W.; Hardy, Judith P.; Lettington, Olwen C.; Toyne, Kenneth J.
CORPORATE SOURCE: Sch. Chem., Univ. Hull, Hull, HU6 7RX, UK
SOURCE: Liquid Crystals (1994), 16(6), 925-40
CODEN: LICRE6; ISSN: 0267-8292
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The synthesis and characterization of 7 novel (R)-2-(4-substituted-phenoxy)propanonitriles are described. The propanonitriles were prepared to evaluate their potential use as thermochromics and ferroelec. dopants, as well as to determine their twist sense properties. The materials exhibit smectic and chiral nematic phases of high thermal stability; the mesogenic behavior of the nitriles is directly related to the type of 2-ring core unit employed. The effects of the different mol. geometries and polarizabilities of the liquid crystalline cores on mesophase stability are discussed, particularly in relation to other members of this series. The chiral nematic phase of the propanonitriles is assigned as having a left-handed twist sense from contact preparation studies, and this is in agreement with rules absolute configuration and mol. structure to helical twist sense.
IT 157788-43-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(liquid crystal, preparation and properties of, effect of core geometry on)
RN 157788-43-7 CAPLUS
CN Benzoic acid, 4-(5-pentyl-2-pyrimidinyl)-, 4-(1-cyanoethoxy)phenyl ester, (R)- (9CI) (CA INDEX NAME)

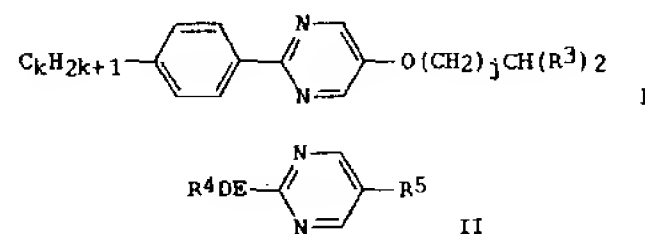
Absolute stereochemistry.



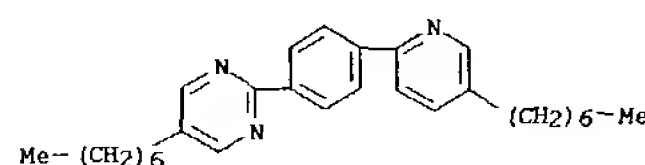
L9 ANSWER 454 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:591510 CAPLUS
DOCUMENT NUMBER: 121:191510
TITLE: ferroelectric liquid crystal composition for display device
INVENTOR(S): Oonaka, Takami; Ichihashi, Mitsuyoshi; Minami, Kazumori; Nigorikawa, Kazunori; Ishizuka, Takahiro
PATENT ASSIGNEE(S): Fujii Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 76 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05339577 | A2 | 19931221 | JP 1992-174690 | 19920609 |

PRIORITY APPLN. INFO.: JP 1992-174690 19920609
GI



AB A ferroelec. liquid crystal composition for a display device comprises a chiral compound represented by the formula R1A(X)pB(Y)q(C)nOCH2C*HF(CH2)mOR2 (A, B, C = an aromatic, aliphatic, or heterocyclic group; X, Y = CH2O, OCH2, CO2, OCO, CH=CH, or C=C; R1 = alkyl or alkoxy; R2 = alkyl or alkenyl; n, p, q = 0 or 1; m = an integer of 3-11), a nonchiral compound represented by the formula I (R3 = Me or ethyl; k = an integer of 3-16; j = an integer of 4-16), and another nonchiral compound represented by the formula II (D = 1,4-phenylene or 1,4-cyclohexylene; E = 2,5-pyridinylene; R4, R5 = alkyl).
IT 154923-60-1
RL: TEM (Technical or engineered material use); USES (Uses)
(ferroelec. liquid crystal compns. containing, for display devices)
RN 154923-60-1 CAPLUS
CN Pyrimidine, 5-heptyl-2-[4-(5-heptyl-2-pyridinyl)phenyl]- (9CI) (CA INDEX NAME)



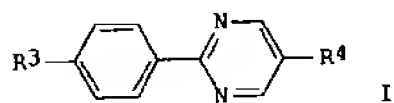
9/811,359

09/835,523

L9 ANSWER 455 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:591509 CAPLUS
 DOCUMENT NUMBER: 121:191509
 TITLE: ferroelectric liquid crystal composition
 INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori; Ishizuka, Takahiro; Nigorikawa, Kazunori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05339574 | A2 | 19931221 | JP 1992-171862 | 19920605 |
| PRIORITY APPLN. INFO.: | | | JP 1992-171862 | 19920605 |

GI

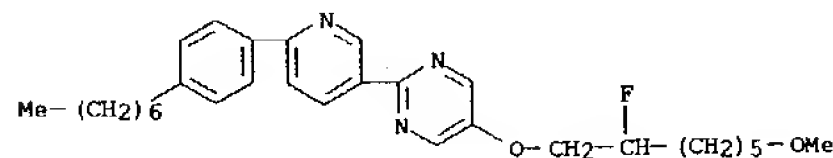


AB A ferroelec. liquid crystal composition suited for use in a fast-response electrooptical display device comprises a chiral compound having the formula $R1ABXOCH2C^*HF(CH2)mOR2$ (A, B, or X = 1,4-phenylene, 1,4-cyclohexylene, 2,5-pyridinylene, or 2,5-pyrimidinylene which may be substituted with CN or halogens; R1 = C2-15 alkoxy which may be substituted with halogens (but ≥ 1 nonadjacent methylene group may be substituted with O); R2 = C1-8 alkyl which may be substituted with halogens; m = an integer of 4-11; * indicates the position of an unsym. C atom) and a nonchiral compound having the formula I (R3, R4 = C1-16 alkyl).

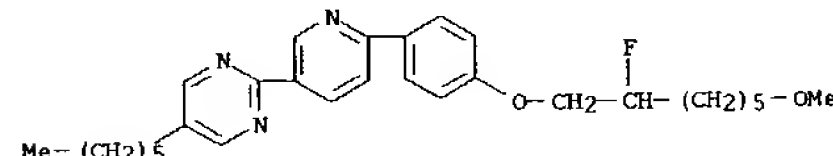
IT 157914-85-7
 RL: USES (Uses)
 (ferroelec. liquid crystal composition, for electrooptical display devices)
 RN 157914-85-7 CAPLUS
 CN Pyrimidine, 5-[(2-fluoro-7-methoxyheptyl)oxy]-2-[6-(4-heptylphenyl)-3-pyridinyl]-, mixt. with 2-[6-[4-[(2-fluoro-7-methoxyheptyl)oxy]phenyl]-3-pyridinyl]-5-hexylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-(8-methylnonyl)-2-(4-octylphenyl)pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-nonyl-2-(4-octylphenyl)pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 157914-84-6
 CMF C30 H40 F N3 O2

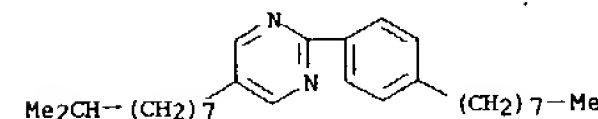
L9 ANSWER 455 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



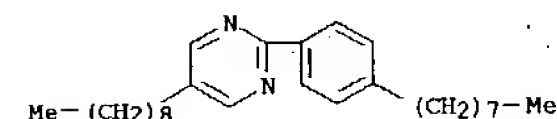
CM 2
 CRN 157914-83-5
 CMF C29 H38 F N3 O2



CM 3
 CRN 144314-77-2
 CMF C28 H44 N2

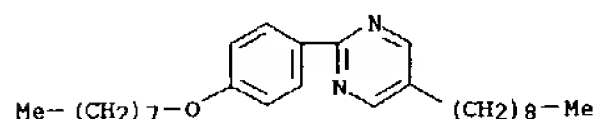


CM 4
 CRN 139226-15-6
 CMF C27 H42 N2

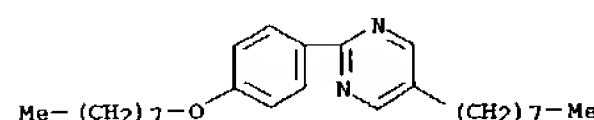


CM 5
 CRN 57202-58-1
 CMF C27 H42 N2 O

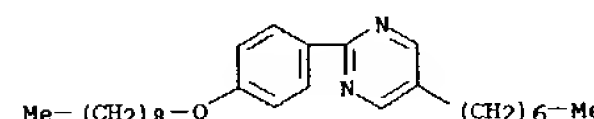
L9 ANSWER 455 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 6
 CRN 57202-50-3
 CMF C26 H40 N2 O



CM 7
 CRN 57202-40-1
 CMF C26 H40 N2 O



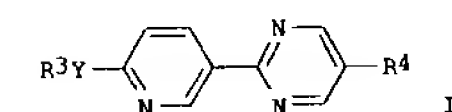
CM 8
 CRN 57202-39-8
 CMF C25 H38 N2 O



L9 ANSWER 456 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:591508 CAPLUS
 DOCUMENT NUMBER: 121:191508
 TITLE: ferroelectric liquid crystal composition for display device
 INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori; Nigorikawa, Kazunori; Yamada, Hisao
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

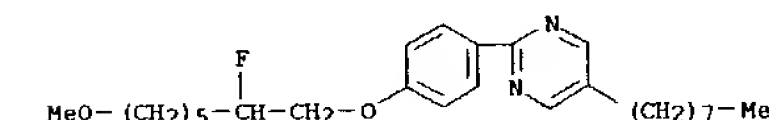
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05339575 | A2 | 19931221 | JP 1992-171863 | 19920605 |
| PRIORITY APPLN. INFO.: | | | JP 1992-171863 | 19920605 |

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AB A ferroelec. liquid crystal composition for a quick-response display device comprises a chiral compound represented by the formula $R1ABCOCH2C^*HF(CH2)mOR2$ (A, B, C = 1,4-phenylene which may be substituted with halogen atoms or cyano groups, 1,4-cyclohexylene, 2,5-pyridinylene, or 2,5-pyrimidinylene; R1 = C1-12 alkyl or alkoxy which may be substituted with halogen atoms, but ≥ 1 of the nonadjacent methylene groups may be substituted with O; R2 = C1-8 alkyl which may be substituted with halogen atoms; m = an integer of 4-11 with * indicating an asym. C atom) and a nonchiral compound represented by the formula I (Y = 1,4-phenylene which may be substituted with 1 or 2 F atoms or cyano groups or 1,4-cyclohexylene; R3, R4 = C1-20 alkyl which may be substituted with ≥ 1 F atom, but ≥ 1 of the nonadjacent methylene groups may be substituted with O, S, or CO).

IT 155364-29-7
 RL: USES (Uses)
 (ferroelec. liquid crystal comps. containing, for display devices)
 RN 155364-29-7 CAPLUS
 CN Pyrimidine, 2-[4-[(2-fluoro-7-methoxyheptyl)oxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)



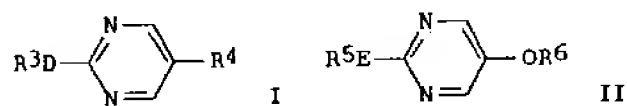
9/811, 359

09/ 835, 523

L9 ANSWER 457 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:591503 CAPLUS
DOCUMENT NUMBER: 121:191503
TITLE: Ferroelectric liquid crystal composition and display using same
INVENTOR(S): Oonaka, Takami; Ichihashi, Mitsuyoshi; Minami, Kazumori; Yamada, Hisao; Ishizuka, Takahiro
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

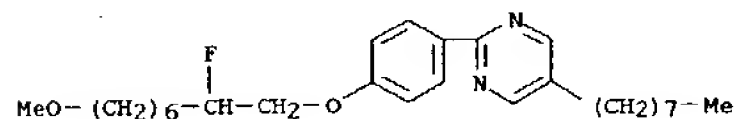
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05320651 | A2 | 19931203 | JP 1992-158514 | 19920526 |

PRIORITY APPLN. INFO.: JP 1992-158514 19920526
GI



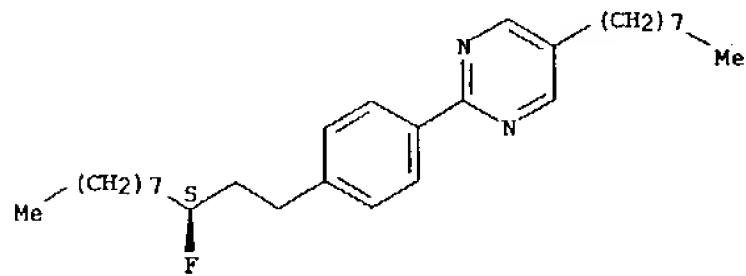
AB The title ferroelec. liq.crystal composition contains the chiral compound, R1A(X)pB(Y)q(C)nOCH2C*HF(CH2)mOR2 [A, B, C = divalent aromatic ring, divalent alicyclic ring, divalent heterocyclic ring; X, Y = CH2O, OCH2, CO2, OCO, CH:CH, ethyndiyl; R1 = alkyl, alkoxy; R2 = alkyl, alkenyl; n, p, q = 0, 1; m = 3-11; * = indicates an asym. C], and the achiral compound I [D = 2,5-pyridinylene; R1, R2 = C6-20 alkyl] and (or) the chiral compound II [E = 2,5-pyridinylene; R1, R2 = C5-12 alkyl]. The title display device shows a pretilt angle of $\geq 5^\circ$ of the orientation film towards the SA phase of the ferroelec. liquid crystal, and has an insulating layer of dielec. constant ≥ 5 placed between 1 of the transparent electrodes of the device and the orientation film. The title device shows fast response, and is useful in large area, high-d. displays.

IT 155844-44-3
RL: USES (Uses)
(ferroelec. liquid crystal composition containing)
RN 155844-44-3 CAPLUS
CN Pyrimidine, 2-[4-[(2-fluoro-8-methoxyoctyl)oxy]phenyl]-5-octyl- (9CI) (CA INDEX NAME)

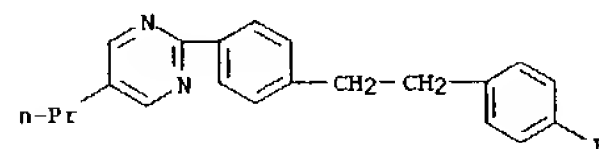


L9 ANSWER 459 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:567443 CAPLUS
DOCUMENT NUMBER: 121:167443
TITLE: Fluoroalkyl-substituted phenylpyrimidines as chiral dopants for ferroelectric liquid crystals
AUTHOR(S): Kusumoto, Tetsuo; Ogino, Kumiko; Sato, Kenichi; Hiyama, Tamejiro; Takehara, Sadao; Nakamura, Kayoko
CORPORATE SOURCE: Sagami Chem. Res. Cent., Sagami-hara, 229, Japan
SOURCE: Ferroelectrics (1993), 148(1-4), 147-52
CODEN: FEROA8; ISSN: 0015-0193
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Starting with (R)-1,2-epoxyalkanes, (S)-5-alkyl(or -alkyloxy)-2-[4-(3-fluoroalkyl)phenyl]pyrimidines and (S)-2-(4-alkyloxyphenyl)-5-(3-fluoroalkyl)-pyrimidines were synthesized and shown to be good chiral dopants for achieving fast response of ferroelec. liquid crystals mixture. In contrast, 2-fluoroalkyl derivs. exhibited very small spontaneous polarization.
IT 152291-77-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as chiral dopant for ferroelec. liquid crystals)
RN 152291-77-5 CAPLUS
CN Pyrimidine, 2-[4-(3-fluoroundecyl)phenyl]-5-octyl-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

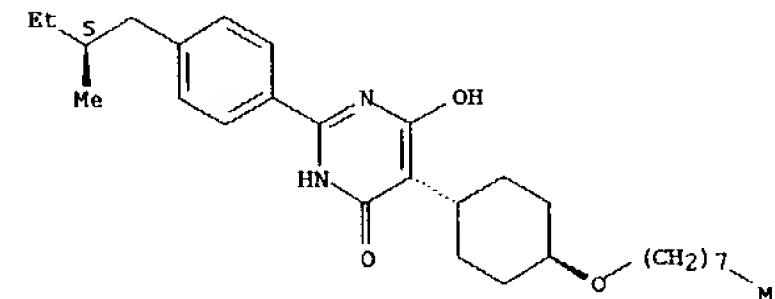


L9 ANSWER 458 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:590062 CAPLUS
DOCUMENT NUMBER: 121:190062
TITLE: Gas phase molecular modeling of liquid crystal: electro-optical anisotropies
AUTHOR(S): Bremer, Matthias; Tarumi, Kazuaki
CORPORATE SOURCE: Liq. Cryst. Res. Dep., E. Merck, Darmstadt, D-64271, Germany
SOURCE: Advanced Materials (Weinheim, Germany) (1993), 5(11), 842-8
CODEN: ADVMEW; ISSN: 0935-9648
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In order to test the applicability of semiempirical calcn. of the dielec. anisotropy and birefringence of nematic liquid crystals 80 mols. were selected on the basis of both chemical diversity and a broad range of electrooptical anisotropies. All calcns. were carried out for isolated mols. at 0 K and without zero-point energy, i.e. association, packing and temperature effects were neglected; only one conformer was considered. There is a correlation between computed dipole moments and exptl. dielec. anisotropy, as well as between calculated polarizabilities and exptl. birefringences.
IT 157754-84-2
RL: PRP (Properties)
(semiempirical calcn. of dielec. anisotropy and birefringence of nematic liquid crystals)
RN 157754-84-2 CAPLUS
CN Pyrimidine, 2-[4-[2-(4-fluorophenyl)ethyl]phenyl]-5-propyl- (9CI) (CA INDEX NAME)



L9 ANSWER 460 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:567437 CAPLUS
DOCUMENT NUMBER: 121:167437
TITLE: Synthesis and mesomorphic properties of ferroelectric liquid crystals bearing trans 4-alkoxycyclohexylpyrimidines
AUTHOR(S): Sugita, Shin-Ichi; Toda, Susumu; Yoshiyasu, Takashi; Teraji, Tsutomu; Murayama, Akio
CORPORATE SOURCE: Chem. Res. Lab., Fujisawa Pharmaceutical Co., Ltd., Osaka, 532, Japan
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1994), 239, 113-22
CODEN: MCLCE9; ISSN: 1058-725X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A homologous series of chiral trans-4-alkoxycyclohexylpyrimidines were synthesized and their mesomorphic properties were evaluated with DSC and a polarizing microscope. The presence of a trans-1,4-disubstituted cyclohexane ring strongly promoted the formation of the SB phase and seems to suppress the formation of the chiral smectic C (Sc*) phase.
IT 157519-55-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and chlorination of)
RN 157519-55-6 CAPLUS
CN 4(1H)-Pyrimidinone, 6-hydroxy-2-[4-(2-methylbutyl)phenyl]-5-[4-(octyloxy)cyclohexyl]-, [1(S)-trans]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



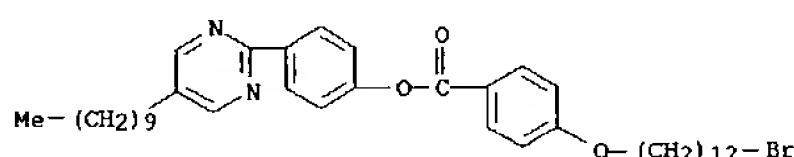
9/811, 359

09/035,523

L9 ANSWER 461 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:567114 CAPLUS
 DOCUMENT NUMBER: 121:167114
 TITLE: Preparation of optically inactive branched fluoroalkyl compounds for liquid-crystal display devices
 INVENTOR(S): Ido, Motohisa; Watanabe, Ryusuke
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 06080612 | A2 | 19940322 | JP 1992-260534 | 19920904 |
| PRIORITY APPLN. INFO.: | | JP 1992-260534 19920904 | | |

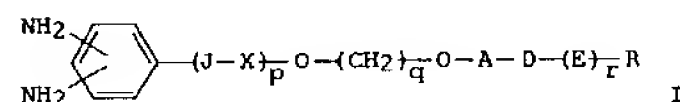
OTHER SOURCE(S): MARPAT 121:167114
 AB Optically inactive liquid-crystal compds. RCO₂(CH₂)_nOR' [I: R = branched fluoroalkyl; R' = ACO₂AA, ACO₂AB, ACO₂BA, ACA (A = 1,4-C₆H₄, B = 2,5-pyrimidinediyl, C = 5,2-pyrimidinediyl); R₂ = C₄-20 non-optically-active alkyl; k = 1-20; Y = direct bond, O, CO₂, OCO] are claimed. Addition of I to ferroelec. polymeric liquid-crystals provide liquid-crystal compns. showing high tilt angle in display devices.
 IT 155167-20-7P
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (preparation and esterification of, with fluorine-containing carboxylic acids, liquid crystal with high tilt angle from)
 RN 155167-20-7 CAPLUS
 CN Benzoic acid, 4-[(12-bromododecyl)oxy]-, 4-(5-decyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



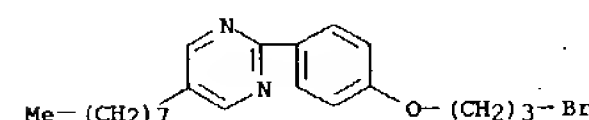
L9 ANSWER 462 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:567067 CAPLUS
 DOCUMENT NUMBER: 121:167067
 TITLE: Polyimide liquid crystal orientation film
 INVENTOR(S): Ono, Shigetoshi; Nozaki, Choji; Imamura, Naoya
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 05216046 | A2 | 19930827 | JP 1992-21376 | 19920206 |
| PRIORITY APPLN. INFO.: | | JP 1992-21376 19920206 | | |

GI



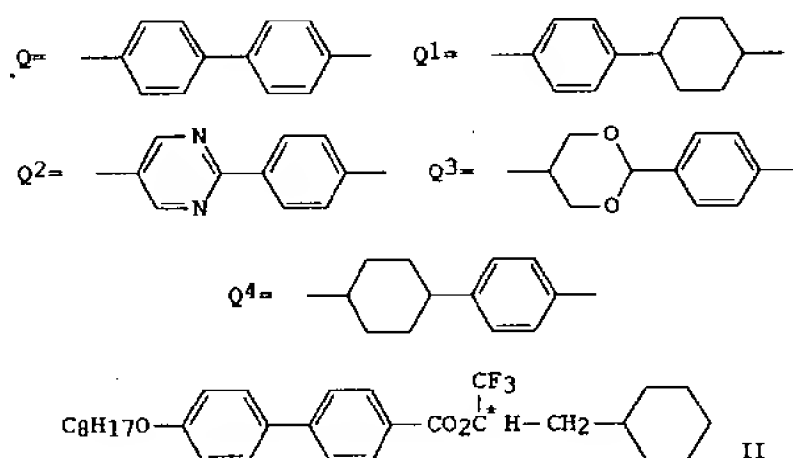
AB The title orientation film is obtained from I [J = carbonamido, sulfonamido, carbamoyl, sulfamoyl, carbonyl, sulfonyl, O, S; X = arylene, alkylene, aralkylene; A,D,E = benzene ring, cyclohexane ring, heterocycle; R = alkoxy, alkyl; p, r = 0,1; q = 1-6; J-X may represent CO] and a tetracarboxylic acid derivative selected from a tetracarboxylic acid, a tetracarboxylic acid dianhydride, a tetracarboxylic acid diester, and a tetracarboxylic acid tetraester. By having a long-chain amido side chain in the polyimide, defects in liquid crystal orientation does not occur, and bistability is also increased.
 IT 157482-74-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, diamine from)
 RN 157482-74-1 CAPLUS
 CN Pyrimidine, 2-[4-(3-bromopropoxy)phenyl]-5-octyl- (9CI) (CA INDEX NAME)



L9 ANSWER 463 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:545935 CAPLUS
 DOCUMENT NUMBER: 121:145935
 TITLE: Preparation of optically active fluorine-containing compounds, liquid crystal composition, and liquid crystal device
 INVENTOR(S): Namekawa, Masaaki; Nayuki, Shinichi; Ito, Keizo; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 06116195 | A2 | 19940426 | JP 1992-265960 | 19921005 |
| PRIORITY APPLN. INFO.: | | JP 1992-265960 19921005 | | |

OTHER SOURCE(S): MARPAT 121:145935
 GI

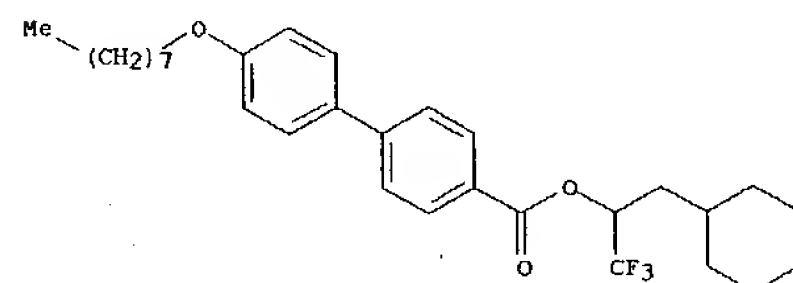


AB RXA1(YA2)mZC*H(Rf)(CH₂)_nRc [I: R = C₃-18 linear or branched alkyl; X = O, CO₂, O₂C, single bond; Y = CO₂, O₂C, OCH₂, CH₂O, single bond; m = 0,1; Z = CO₂, CH₂O, O; Rf = C₁-2 fluoroalkyl; n = 1-5; Rc = C₄-12 cycloalkyl; A1, A2 = p-phenylene, 1,4-cyclohexylene, 2,5-pyrimidinediyl, 3,6-pyridazinediyl, 2,6-naphthalenediyl, or Q - Q₆, which is optionally substituted by 1-4 halogens; C* denotes optically active C atom] and optically active fluoro alcs. HOC*H(Rf)(CH₂)_nRc (intermediates) are prepared. A ferroelec. liquid crystal composition contains at least one optically active fluoro compound I and compds. with chiral smectic C (SmC*) and/or smectic C phase (SmC). I induce large spontaneous polarization when they are added to liquid crystal compns., provide liquid crystal compns. with fast response speed, and are useful for displays, electronic devices, and liquid crystal sensors. Thus, Et trifluoroacetate was reacted with cyclohexylmethylmagnesium bromide in Et₂O at -30° to give trifluoromethyl cyclohexylmethyl ketone which was reduced by NaBH₄ in EtOH at room temperature to give 1,1,1-trifluoro-3-cyclohexyl-2-propanol. The latter alc. was acetylated by AcCl in the presence of pyridine in CH₂Cl₂ to give 2-acetoxy-1,1,1-trifluoro-3-cyclohexylpropane which was hydrolyzed by

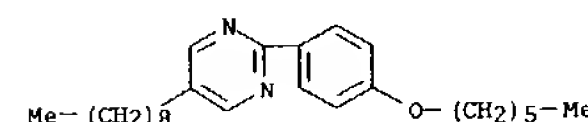
L9 ANSWER 463 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 lipase MY in H₂O while maintaining pH at 6-7 by adding aq. 1 N NaOH to give (+)-1,1,1-trifluoro-3-cyclohexyl-2-propanol of 96 %e.e. This optically active alc. was esterified by 4'-octyloxybiphenyl-4-carbonyl chloride in the presence of pyridine in CH₂Cl₂ at room temp. to give title compd. [(+)-II]. A chiral smectic C crystal liq. crystal compn. contg. (+)-II and 4 2-(4-alkoxyphenyl)-5-alkylpyrimidines showed response speed 300 μs.
 IT 157330-86-4
 RL: PRP (Properties) (chiral smectic C liquid crystal composition, for display)
 RN 157330-86-4 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 1-(cyclohexylmethyl)-2,2,2-trifluoroethyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 157330-81-9
 CMF C30 H39 F3 O3

Rotation (+).



CM 2
 CRN 57202-56-9
 CMF C25 H39 N2 O

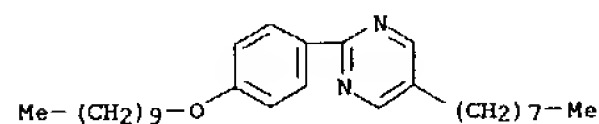


CM 3
 CRN 57202-52-5
 CMF C28 H44 N2 O

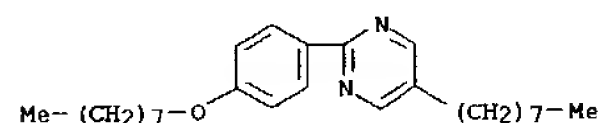
9/811,359

00/835,523

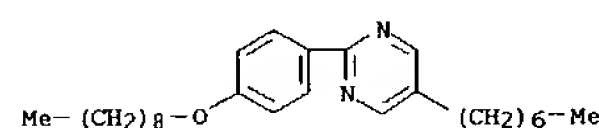
L9 ANSWER 463 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 4

CRN 57202-50-3
CMF C26 H40 N2 O

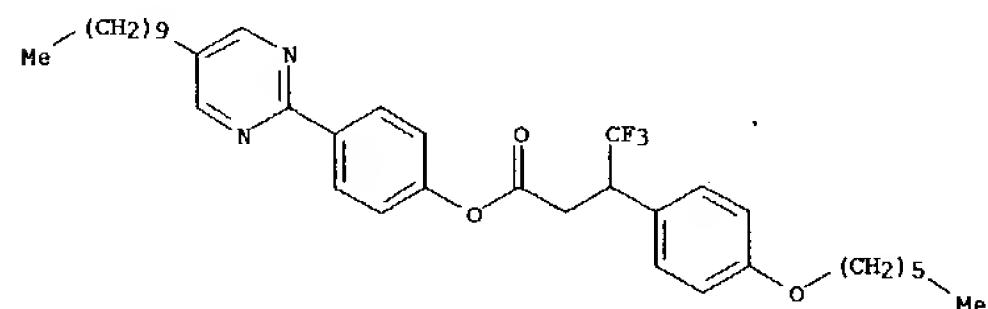
CM 5

CRN 57202-40-1
CMF C26 H40 N2 O

L9 ANSWER 464 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
optically active C atom) are prepd. I induce large spontaneous polarization when they are added to liq. crystal compns. with nonchiral or chiral smectic phase and provide liq. crystal compns. with improved response speed. Thus, optically active phenylbutyric acid deriv. (II; R = H) was condensed with 4-(5-decylpyrimidin-2-yl)phenol by using DCC in CH₂Cl₂ to give (-)-II (R = Q1). A liq. crystal compn. contg. 95 wt.% MORAQ (III) and 5 wt.% title compd. (IV) showed 2.5 times larger spontaneous polarization compared to that of III and response speed 22 ms (.apprx.54% increase).

IT 157280-04-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as liquid crystal)
RN 157280-04-1 CAPLUS
CN Benzenepropanoic acid, 4-(hexyloxy)-β-(trifluoromethyl)-, 4-(5-decyl-2-pyrimidinyl)phenyl ester, (+)- (9CI) (CA INDEX NAME)

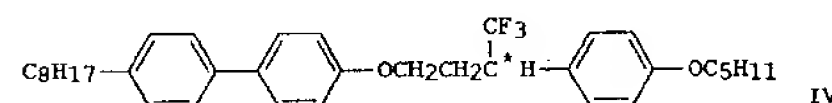
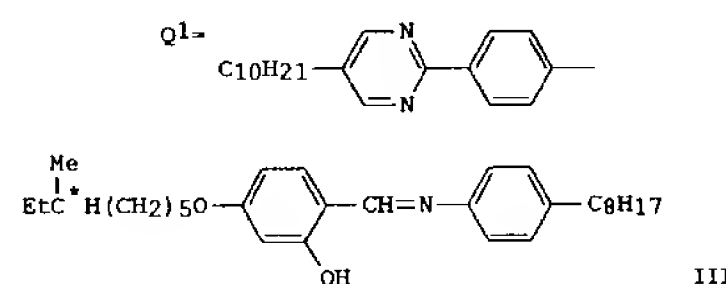
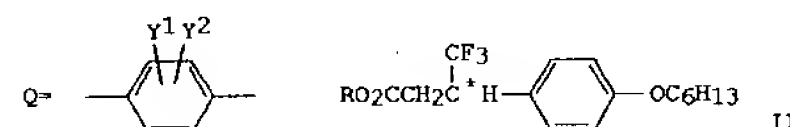
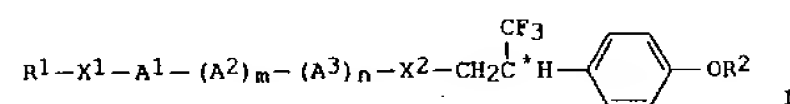
Rotation (+).



L9 ANSWER 464 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:545934 CAPLUS
DOCUMENT NUMBER: 121:145934
TITLE: Preparation of optically active (trifluoromethyl)phenylalkane derivatives as components for liquid crystal compositions
INVENTOR(S): Nohira, Hiroyuki; Aoki, Yoshio; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06116196 | A2 | 19940426 | JP 1992-288188 | 19921005 |
| JP 2881078 | B2 | 19990412 | | |

PRIORITY APPLN. INFO.: JP 1992-288188 19921005
OTHER SOURCE(S): MARPAT 121:145934
GI

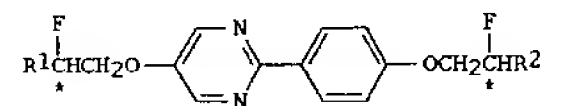


AB The title compds. (I: R1, R2 = C1-18 linear or branched alkyl; X1 = single bond, O, CO, CO₂, O₂C; X2 = OCH₂, O₂C; A1 - A3 = Q, 1,4-cyclohexylene, 2,5- or 5,2-pyrimidinediyl; Y1, Y2 = H, halo; m, n = 0,1; C* denotes

L9 ANSWER 465 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:545513 CAPLUS
DOCUMENT NUMBER: 121:145513
TITLE: Optically active compound, liquid crystal composition containing same, and display device using same
INVENTOR(S): Nohira, Hiroyuki; Ichihashi, Tetsuya; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

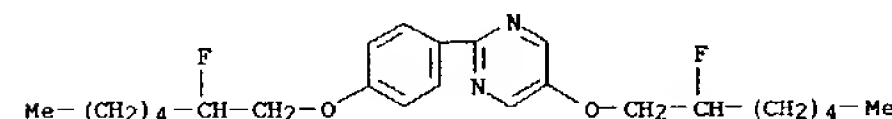
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05213897 | A2 | 19930824 | JP 1992-21200 | 19920206 |

PRIORITY APPLN. INFO.: JP 1992-21200 19920206
GI



AB The title compound has the formula I [R1, R2 = linear C1-18 alkyl; * indicates asym. carbon (optically active)]. The title liquid crystal composition containing the optically active compound shows chiral smectic phase and is ferroelec. The liquid crystal display device using the liquid crystal composition shows good switching characteristic and rapid response.

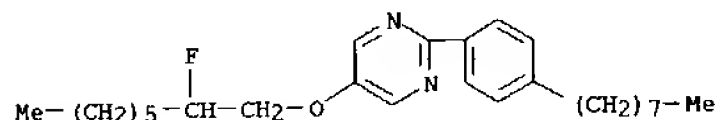
IT 157354-52-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and use of, for ferroelec. liquid crystal composition, for display)
RN 157354-52-4 CAPLUS
CN Pyrimidine, 5-[(2-fluoroheptyl)oxy]-2-[4-[(2-fluoroheptyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



9/811, 359

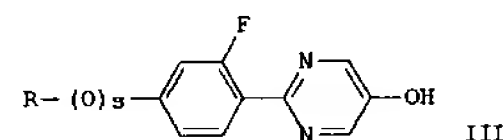
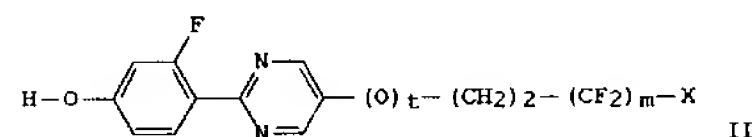
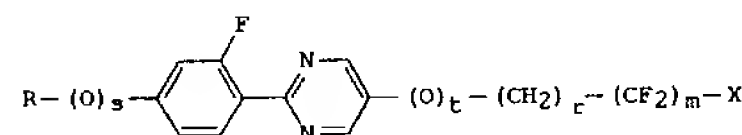
09/ 835,523

L9 ANSWER 466 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:522908 CAPLUS
DOCUMENT NUMBER: 121:122908
TITLE: Time-resolved FT-IR study of 5-(2-fluoroalkoxy)-2-(4-n-alkylphenyl)pyrimidine
AUTHOR(S): Katayama, N.; Czarnecki, M. A.; Ozaki, Y.; Murashiro, K.; Kikuchi, M.; Saito, S.; Demus, D.
CORPORATE SOURCE: Sch. Sci., Kwansei Gakuin Univ., Nishinomiya, 662, Japan
SOURCE: Ferroelectrics (1993), 147(1-4), 441-5
CODEN: FEROA8; ISSN: 0015-0193
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The elec.-field-induced reorientation of the C* phase of 5-(2-fluorooctyloxy)-2-(4-octylphenyl)-pyrimidine was studied by using an asynchronous time-resolved FTIR technique. The time-resolved study indicates that the liquid crystal (LC) mol. reorients from perpendicular (zero time of delay) to parallel (500 μ s delay) direction with respect to that of the polarized IR light at 32° while it does reversely at 41°. Also the change in the voltage applied has little influence on the rate of reorientation in the region of the pos. spontaneous polarization (Ps), while the rate in the region of the neg. Ps strongly depends upon the voltage.
IT 155430-67-4
RL: PRP (Properties)
(ferroelec. liquid crystal, field induced reorientation of)
RN 155430-67-4 CAPLUS
CN Pyrimidine, 5-[(2-fluorooctyl)oxy]-2-(4-octylphenyl)- (9CI) (CA INDEX NAME)



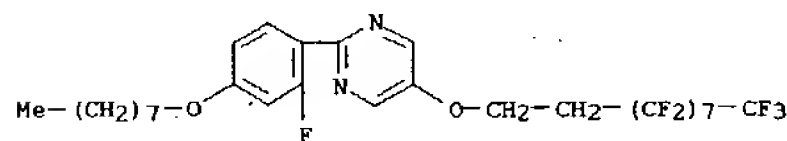
L9 ANSWER 467 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:522233 CAPLUS
DOCUMENT NUMBER: 121:122233
TITLE: 2-(2-fluorophenyl)-pyrimidine derivatives, their preparation, smectic liquid crystal mixtures containing them, and displays employing the mixtures
INVENTOR(S): Poetsch, Eike; Waechtler, Andreas; Geelhaar, Thomas; Hittich, Reinhard; Kompter, Michael
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: Ger. Offen., 14 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|--------------------------|-----------------|----------|
| DE 4223744 | A1 | 19940120 | DE 1992-4223744 | 19920718 |
| PRIORITY APPLN. INFO.: | | DE 1992-4223744 19920718 | | |
| OTHER SOURCE(S): | | MARPAT 121:122233 | | |
| GI | | | | |



AB The title derivs. are described by the general formula I (R = a Cs16 alkyl group in which 1 -CH2- group can be replaced by a -CHF-, -CF(CH3)-, -CH(CF3)-, -CH(CN)-, -CH(CH3)-, or -CF(CF3)- group; X = F or H; r = 2-8; s = 0 or 1; and t = 0 or 1); their preparation may entail reacting a phenol described by the general formula II with an alkylating agent described by the general formula R-Y (Y = a halogen, -O-SO2-CF3, -O-SO2-C7H7, or -OH) in the presence of a base or a dehydrating agent or by reacting a pyrimidin-5-ol described by the general formula III with an alkylating agent described by the general formula Y-(CH2)r-(CF2)m-X in the presence of a base or a dehydrating agent. Chiral smectic media comprising ≥ 2 achiral liquid crystal components and ≥ 1 optically active component are described in which ≥ 1 of the achiral components is described by the general formula I; liquid crystal displays employing the

L9 ANSWER 467 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
media are also described. The phenols described by formula II are claimed sep.
IT 157054-53-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and use of, as liquid crystal)
RN 157054-53-0 CAPLUS
CN Pyrimidine, 2-[2-fluoro-4-(octyloxy)phenyl]-5-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)oxy]- (9CI) (CA INDEX NAME)

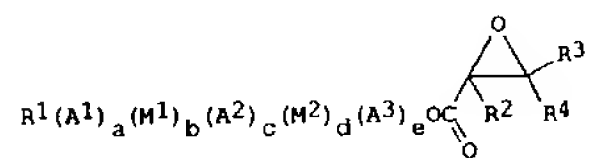


L9 ANSWER 468 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:522229 CAPLUS
DOCUMENT NUMBER: 121:122229
TITLE: Chiral oxirane derivatives and their use as dopants in liquid crystal mixtures
INVENTOR(S): Manero, Javier; Kaltbeitzel, Anke
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| DE 4211563 | A1 | 19931014 | DE 1992-4211563 | 19920407 |
| WO 9320068 | A1 | 19931014 | WO 1993-EP717 | 19930324 |

W: CA, JP, KR, US

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRIORITY APPLN. INFO.: DE 1992-4211563 19920407
OTHER SOURCE(S): MARPAT 121:122229
GI



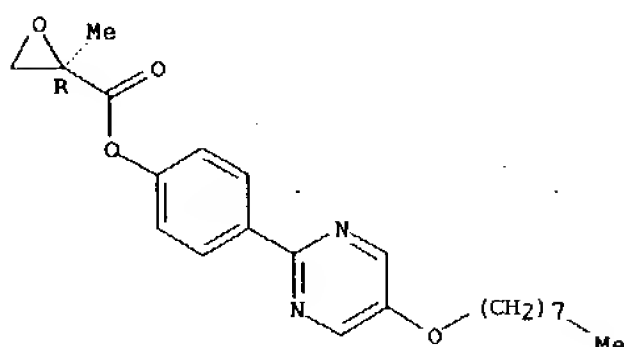
AB The title derivs. are described by the general formula I (R1 = H, a selected chiral group, or a C1-22 straight or branched chain alkyl residue in which ≥ 1 CH2 group may be replaced with -O-, -S-, -SO-, -CO-, -CH:CH-, -C.tplbond.C-, cyclopropan-diyl, -Si((CH3)2)- or 1,4-cyclohexylene groups with the restriction that no chalcogenide atom is bound directly with another chalcogenide atom, and in which ≥ 1 H atom on the residue may be replaced with -F, -Cl, -Br, -CN, -SCN, -OCN, or -N3; R2 = H, a selected chiral group, or a C1-16 straight or branched chain alkyl residue in which ≥ 1 CH2 group may be replaced with -O-, -CO-, -CH:CH-, -C.tplbond.C-, cyclopropan-diyl, -Si((CH3)2)- or 1,4-cyclohexylene groups with the restriction that no O atom is bound directly with another O atom, and in which ≥ 1 H atom on the residue may be replaced with -F, -Cl, -Br, -CN, -SCN, -OCN, or -N3; R3 and R4 are independently selected from H or C1-16 straight or branched chain alkyl residues, with the restriction that R3 and R4 may not both be H when R2 is not Me; A1-3 are selected mesogenic groups; M1-3 are selected spacer groups; a,b,c,d, and e are independently 0 or 1; and a + c + e = 1, 2, or 3). Liquid crystal mixts. are also described in which the derivs. are present in the amount of 0.01-60 weight%, as are electrooptical and optical devices employing the mixts.

IT 156861-30-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and use of, as dopant for liquid crystal media)
RN 156861-30-2 CAPLUS
CN Oxiranecarboxylic acid, 2-methyl-, 4-[5-(octyloxy)-2-pyrimidinyl]phenyl ester, (R)- (9CI) (CA INDEX NAME)

9/811, 359

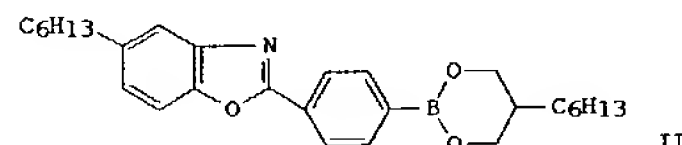
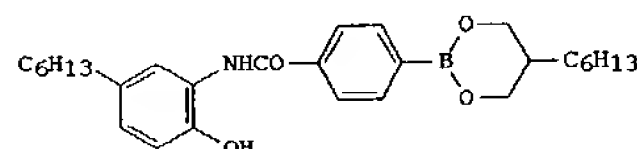
09/ 835,523

L9 ANSWER 468 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
Absolute stereochemistry.



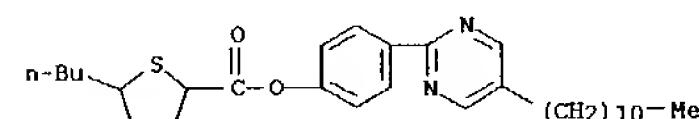
L9 ANSWER 469 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:522228 CAPLUS
DOCUMENT NUMBER: 121:122228
TITLE: Preparation of benzothiazole and benzoxazole derivatives and analogs as liquid crystals
INVENTOR(S): Yamada, Yoko; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 64 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| JP 05239069 | A2 | 19930917 | JP 1992-75987 | 19920228 |
| PRIORITY APPLN. INFO.: | | | JP 1992-75987 | 19920228 |
| OTHER SOURCE(S): | | | MARPAT 121:122228 | |



AB The title compds. (Markush structure given) are prepared A mixture of phenol derivative I and p-toluenesulfonic acid in 1,2-dichlorobenzene was stirred at 190 - 202° for 50 min to give, after workup, II. The title liquid crystals show high response speeds.

IT 156933-01-6
RL: PRP (Properties)
(liquid crystal composition containing)
RN 156933-01-6 CAPLUS
CN 2-Thiophenecarboxylic acid, 5-butyltetrahydro-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)

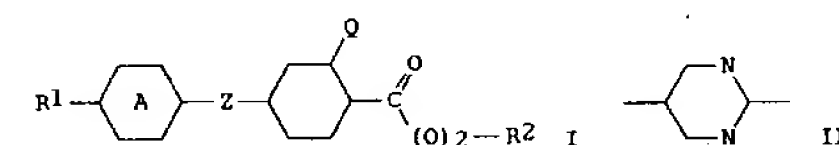


L9 ANSWER 469 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 470 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:521837 CAPLUS
DOCUMENT NUMBER: 121:121837
TITLE: Ferroelectric liquid-crystal compositions
INVENTOR(S): Tadokoro, Mika; Yagi, Misao; Kondo, Hitoshi; Konuma, Hiroko; Hagiwara, Toshimitsu
PATENT ASSIGNEE(S): Takasago Perfumery Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| JP 05287272 | A2 | 19931102 | JP 1991-299503 | 19911021 |
| US 5454976 | A | 19951003 | US 1994-237902 | 19940504 |
| PRIORITY APPLN. INFO.: | | | JP 1990-281992 | A1 19901022 |
| | | | JP 1990-281991 | A 19901022 |
| | | | JP 1990-281993 | A 19901022 |
| | | | US 1991-780105 | B1 19911021 |

GI



AB The ferroelec. liquid-crystal compns. comprise ≥1 compound I [R1 = C6-14 linear alkyl, alkoxy; R2 = C6-14 linear or branched alkyl, alkyl containing asym. carbon; ring A = C6H4, II; Z = single bond, COO; Q = H, F; l = 0, 1], and exhibit chiral-smectic C phase at a temperature, including room temperature Transition of the compns. to chiral-smectic C phase, when cooled from isotropic liquid phase, pass through chiral nematic phase and smectic A phase or only smectic A phase. The tilt angle under elec. field is 12-18°.

IT 156892-04-5
RL: USES (Uses)
(ferroelec. liquid crystal composition containing)
RN 156892-04-5 CAPLUS
CN Pyrimidine, 5-decyl-2-[4-(octyloxy)phenyl]-, mixt. with 2-[4-(decyloxy)phenyl]-5-nonylpyrimidine, 5-decyl-2-[4-(undecyloxy)phenyl]pyrimidine, (R)-5-dodecyl-2-[4-(3-fluoroheptyl)oxy]phenylpyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyridine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(undecyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

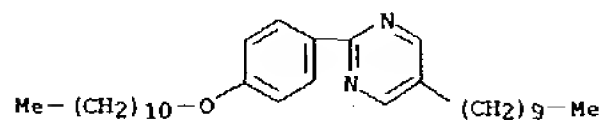
CM 1

CRN 146332-78-7
CMF C31 H50 N2 O

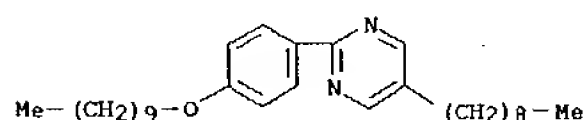
9/811, 359

09/835,523

L9 ANSWER 470 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

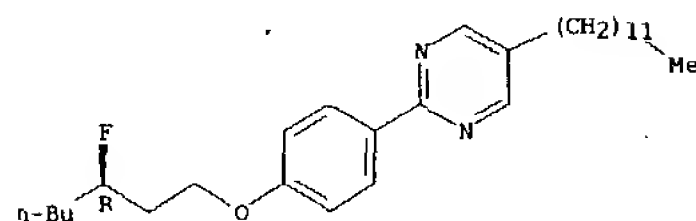


CM 2
CRN 144806-56-4
CMF C29 H46 N2 O

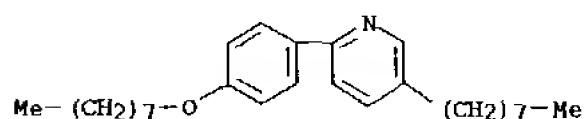


CM 3
CRN 141623-22-5
CMF C29 H45 F N2 O

Absolute stereochemistry.

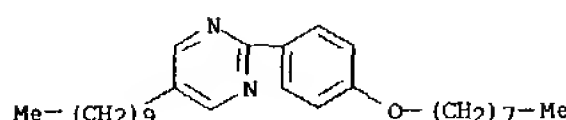


CM 4
CRN 107215-61-2
CMF C27 H41 N O

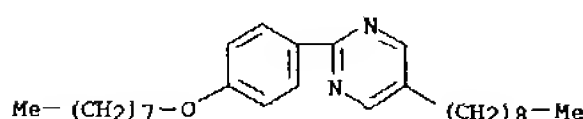


CM 5
CRN 57202-62-7
CMF C28 H44 N2 O

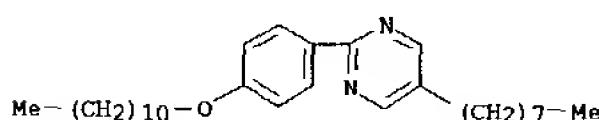
L9 ANSWER 470 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



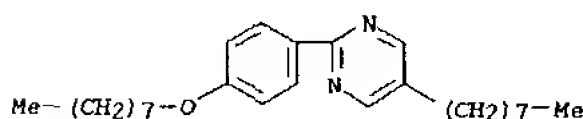
CM 6
CRN 57202-58-1
CMF C27 H42 N2 O



CM 7
CRN 57202-53-6
CMF C29 H46 N2 O

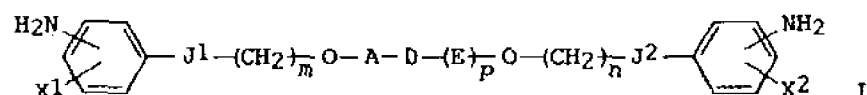


CM 8
CRN 57202-50-3
CMF C26 H40 N2 O



L9 ANSWER 471 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:521833 CAPLUS
DOCUMENT NUMBER: 121:121833
TITLE: Polyimide liquid crystal orienting film
INVENTOR(S): Ono, Shigetoshi; Nozaki, Choji; Imamura, Naoya
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

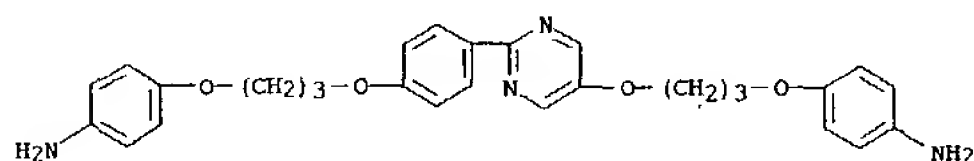
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05216047 | A2 | 19930827 | JP 1992-21378 | 19920206 |
| PRIORITY APPLN. INFO.: | | | JP 1992-21378 | 19920206 |



AB The title polyimide is obtained by using the diamine, (I) (J1, J2 = carbonamido, sulfonamido, carbamoyl, sulfamoyl, carbonyl, O, S; X1, X2 = H, substituent; A, D, E = benzene ring, cyclohexane ring, heterocycle; p = 0, 1; m, n = 1-6). By increasing the pretilt angle of the liquid crystal, contrast of the liquid crystal display is increased.

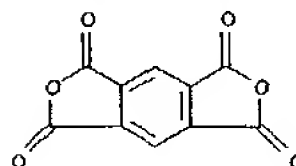
IT 156860-99-0
RI: USES (Uses)
(polyamic acid and polyimide from, for liquid crystal orientation)
RN 156860-99-0 CAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4-[3-[[2-[4-[3-(4-aminophenoxy)propoxy]phenyl]-5-pyrimidinyl]oxy]propoxy]benzenamine (9CI) (CA INDEX NAME)

CM 1
CRN 156860-98-9
CMF C28 H30 N4 O4



CM 2
CRN 89-32-7
CMF C10 H2 O6

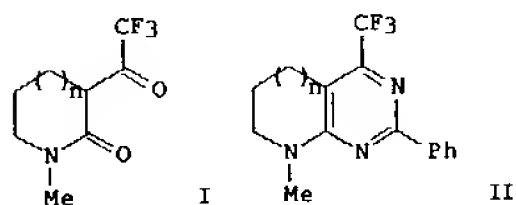
L9 ANSWER 471 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



9/811, 359

09/835,523

L9 ANSWER 472 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:508677 CAPLUS
DOCUMENT NUMBER: 121:108677
TITLE: Trifluoromethylated pyrimidines starting from
 β -trifluoroacetyl-lactams, -lactone and
-cyclanone
AUTHOR(S): Bouillon, Jean Philippe; Bouillon, Vincent; Wynants,
Chantal; Janousek, Zdenek; Viehe, Heinz G.
CORPORATE SOURCE: Lab. Chim. Org., Louvain-la-Neuve, B-1348, Belg.
SOURCE: Heterocycles (1994), 37(2), 915-32
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:108677
GI

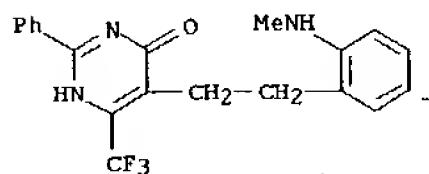


AB A preparation of trifluoromethylated pyrimidines from β -trifluoroacetyl-lactams and -benzolactams is accomplished by reaction with benzamidine as bis(nucleophile). This condensation is also extended to cyclic trifluoromethylated 1,3-diketones and 3-aryl-2-pyrrolidinones. Cyclocondensation of (trifluoroacetyl)lactams I (n = 0-2) gave the fused pyrimidines II (same n).

IT 156870-38-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 156870-38-1 CAPLUS

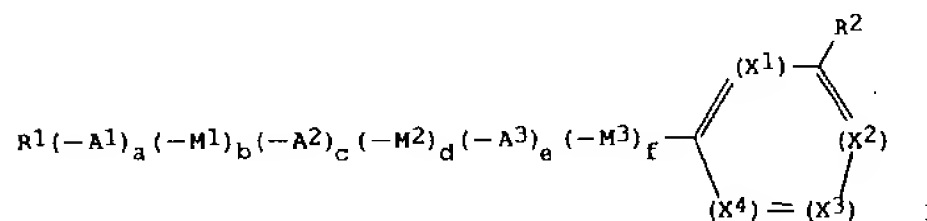
CN 4(1H)-Pyrimidinone, 5-[2-[2-(methylamino)phenyl]ethyl]-2-phenyl-6-(trifluoromethyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 473 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:496680 CAPLUS
DOCUMENT NUMBER: 121:96680
TITLE: Meta-substituted six-membered aromatic ring-based compounds for use in liquid crystal mixtures, the mixtures, and display and switching devices using them
Jungbauer, Dietmar; Schlosser, Hubert
Hoechst A.-G., Germany
Eur. Pat. Appl., 36 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| EP 578054 | A1 | 19940112 | EP 1993-110020 | 19930623 |
| EP 578054 | B1 | 19990519 | | |
| R: CH, DE, FR, GB, LI | | | | |
| DE 4222565 | A1 | 19940113 | DE 1992-4222565 | 19920709 |
| US 5447656 | A | 19950905 | US 1993-88849 | 19930707 |
| JP 06206841 | A2 | 19940726 | JP 1993-170599 | 19930709 |
| PRIORITY APPLN. INFO.: | | | DE 1992-4222565 | 19920709 |
| OTHER SOURCE(S): | | | MARPAT 121:96680 | |

GI



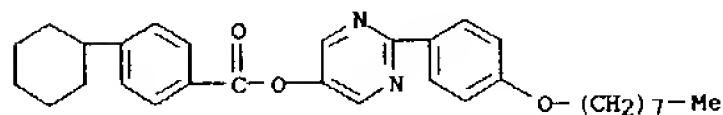
AB The title compds. are described by the general formula I
(R1(-A1)a(M1)b(-A2)c(M2)d(-A3)e(M3)f = a mesogenic group; R2 = selected chiral groups or a straight or branched chain C1-22 alkyl residue, with or without asym. C atoms, in which 1 or 2 CH2 groups may be replaced by -O-, -S-, -CO-, -CO-O-, -O-CO-, -CO-S-, -S-CO-, -O-CO-O-, -CH:CH-, -C.tplbond.C-, cyclopropyldiyl, or -Si(CH3)2- and in which ≥ 1 of the H atoms attached to the alkyl residue may be replaced by F, Cl, Br, or CN; and X1-4 = CH, CF, or N, with the number of N atoms being 0, 1, or 2). Liquid crystal mixts., especially ferroelec. liquid crystal mixts, containing ≥ 1 of the compds. are also described, as are display and switching devices employing the mixts.

IT 155078-93-6
RL: PRP (Properties)
(liquid crystal mixts. containing meta-substituted six-membered aromatic ring-based compds. and)

RN 155078-93-6 CAPLUS

CN Benzoic acid, 4-cyclohexyl-, 2-[4-(octyloxy)phenyl]-5-pyrimidinyl ester (9CI) (CA INDEX NAME)

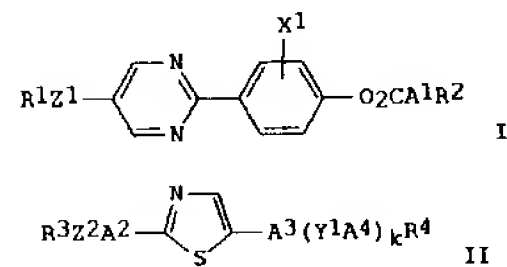
L9 ANSWER 473 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 474 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:496229 CAPLUS
DOCUMENT NUMBER: 121:96229
TITLE: Liquid-crystal composition and device, and display apparatus and method
Yamashita, Masataka; Terada, Masahiro; Mori, Shosei;
Katagiri, Kazuharu
Canon K. K., Japan
U.S., 113 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| US 5269964 | A | 19931214 | US 1991-710773 | 19910605 |
| PRIORITY APPLN. INFO.: | | | JP 1990-148791 | 19900606 |
| OTHER SOURCE(S): | | | MARPAT 121:96229 | |

GI



AB A liquid crystal composition comprises ≥ 1 mesomorphic compound I, where R1,R2 = optionally substituted C1-16 alkyl; Z1 = a single bond, -O-, -COO- or -OCO-; X1 = halogen; and A1 = a single bond or 1,4-cyclohexylene, and ≥ 1 mesomorphic compound II, where R3,R4 = optionally substituted C2-16 alkyl; Y1 = a single bond, -OCO or -COO; Z2,Z3 = a single bond, -O-, -OCO-, -COO or -CO; A2-4 = 1,4-phenylene mono- or disubstituted with F, Cl, Br, Me, CN, and/or CF3, and A2,A3 may also be a single bond; and k = 0 or 1. The liquid-crystal composition is easily aligned by a simple rubbing method to provide a uniform monodomain and further provides wider driving voltage and temperature margins effective for providing a practical ferroelec. liquid-crystal device.

IT 154845-41-7
RL: USES (Uses)
(ferroelec. liquid-crystal compns. containing, for display and other devices)

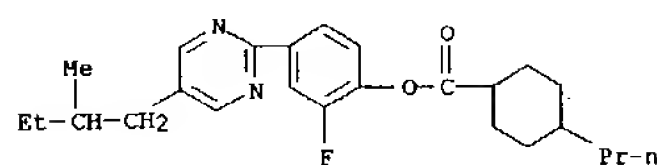
RN 154845-41-7 CAPLUS

CN Cyclohexanecarboxylic acid, 4-propyl-, 2-fluoro-4-[5-(2-methylbutyl)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)

9/811,359

09/ 835,523

L9 ANSWER 474 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 475 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:496208 CAPLUS
 DOCUMENT NUMBER: 121:96208
 TITLE: Antiferroelectric liquid crystal composition and its uses
 INVENTOR(S): Tanaka, Takaaki; Sato, Yuzuru; Iwane, Hiroshi; Inui, Yukiyoshi
 PATENT ASSIGNEE(S): Seiko Epson Corp, Japan; Mitsubishi Petrochemical Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05216003 | A2 | 19930827 | JP 1992-47849 | 19920204 |
| US 5609790 | A | 19970311 | US 1995-457741 | 19950601 |
| PRIORITY APPLN. INFO.: | | | JP 1992-47849 | 19920204 |
| | | | US 1993-129063 | 19931112 |

AB The title composition contains R1(X1)kA1(X2)mA2(X3)nCHZR2 [R1 = C1-30 alkyl; X1 = O, OCO, COO, OCO2, CO; X2, X3 = OCO, COO, CH2O, OCH2; k, m, n = 0,1; Z = CF3, CH3; A1, A2 = 6-membered carbocycle with 0-2 N atoms substituted in the ring, ≥ 2 of the former 6-membered rings joined at their para positions directly or via an interposed COO, OCO, CH2O, or OCH2 linkage, the former rings with F, Me, Et substitution]. The liquid crystal composition can be used in displays, light valves, and in other electrooptical devices.

IT 156534-86-0

RL: USES (Uses)

(antiferroelec. liquid crystal composition)

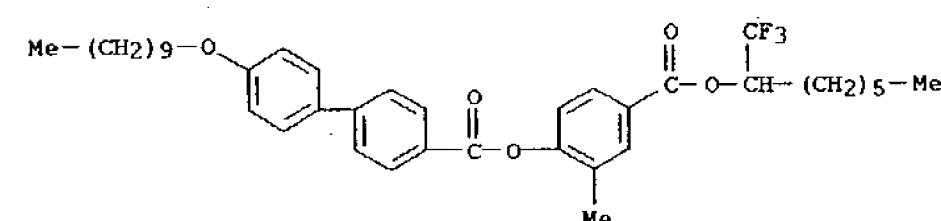
RN 156534-86-0 CAPLUS

CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(decyloxy)-, 2-methyl-4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester, mixt. with 5-butyl-2-[4-(hexyloxy)phenyl]pyrimidine, 1-(trifluoromethyl)heptyl 4-[[4-(5-decyl-2-pyrimidinyl)benzoyl]oxy]-2-fluorobenzoate and 1-(trifluoromethyl)heptyl 4-[[4-(5-dodecyl-2-pyrimidinyl)benzoyl]oxy]-2-fluorobenzoate (9CI) (CA INDEX NAME)

CM 1

CRN 156534-85-9

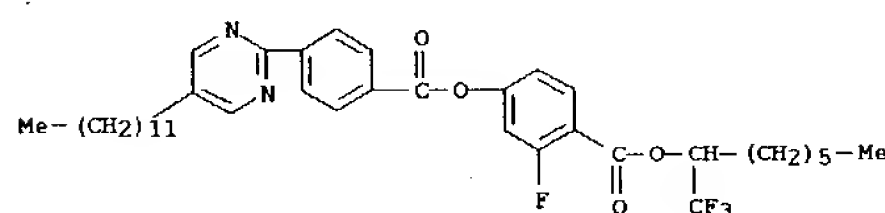
CMF C39 H49 F3 O5



L9 ANSWER 475 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

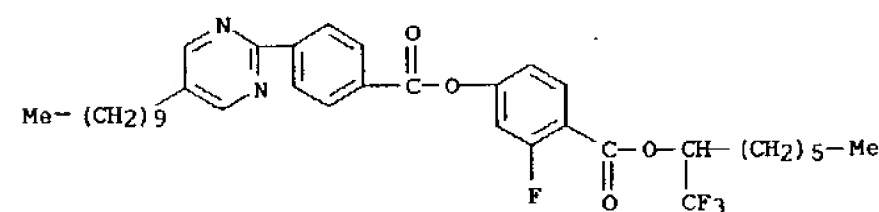
CM 2

CRN 156534-80-4
 CMF C38 H48 F4 N2 O4



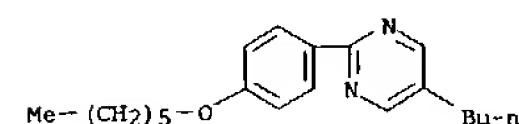
CM 3

CRN 137998-28-8
 CMF C36 H44 F4 N2 O4



CM 4

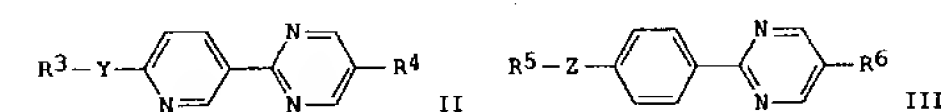
CRN 57202-13-8
 CMF C20 H28 N2 O



L9 ANSWER 476 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:496205 CAPLUS
 DOCUMENT NUMBER: 121:96205
 TITLE: Ferroelectric liquid crystal composition for liquid crystal displays with fast response time
 INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| JP 05186773 | A2 | 19930727 | JP 1992-21964 | 19920110 |
| PRIORITY APPLN. INFO.: | | | JP 1992-21964 | 19920110 |
| OTHER SOURCE(S): | | | MARPAT 121:96205 | |

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AB The title composition consists of 3-40 % of a chiral compound, I, R1ABOCH2CFH(CH2)mOR2 [A, B = (halo- or CN-substituted) divalent aromatic hydrocarbyl, divalent aliphatic hydrocarbyl- or N-containing divalent heterocyclyl; R1 = (halo-substituted) alkyl or alkoxy (≥1 non-adjacent methylene may be substituted by O, S, or CO); R2 = alkyl; m = 4-11] and 5-80 % of an achiral compound II [Y = (1 or 2 Fs- or CN-substituted) 1,4-phenylene or 1,4-cyclohexylene; R3, R4 = (≥1 Fs-substituted) C1-20 alkyl (≥1 non-adjacent methylene may be substituted by O, S, or CO)]. The title composition consists of 3-40 % of the above chiral compound I and 5-80 % of the an achiral compound III [Z = same as above Y; R5, R6 = same as above R3, R4]. The composition shows fast response and excellent characteristics in its alignment and bistability.

IT 155844-39-6

RL: USES (Uses)

(ferroelec. liquid crystal mix., for fast response liquid crystal display)

RN 155844-39-6 CAPLUS

CN Pyrimidine, 5-decyl-2-[4-(decyloxy)phenyl]-, mixt. with 2-[4-(decyloxy)phenyl]-5-nonylpyrimidine, 2-[4-[(2-fluoro-7-methoxyheptyl)oxy]phenyl]-5-octylpyrimidine, 2-[4'-heptyl[1,1'-biphenyl]-4-yl]-5-(2-methylbutyl)pyrimidine, 2-[4'-heptyl[1,1'-biphenyl]-4-yl]-5-octylpyrimidine, 5-heptyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 5-hexyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-hexyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

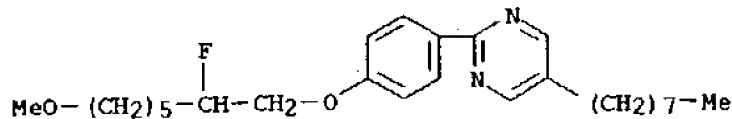
CM 1

CRN 155364-29-7
 CMF C26 H39 F N2 O2

9/811,359

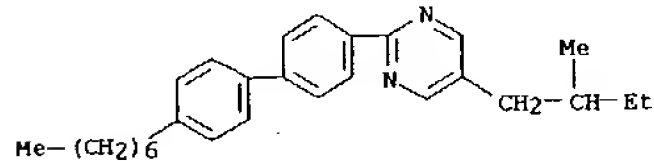
09/835,523

L9 ANSWER 476 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



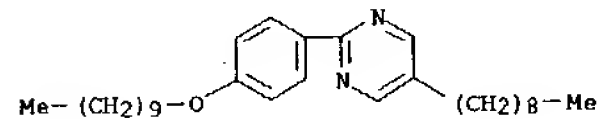
CM 2

CRN 147845-92-9
CMF C28 H36 N2



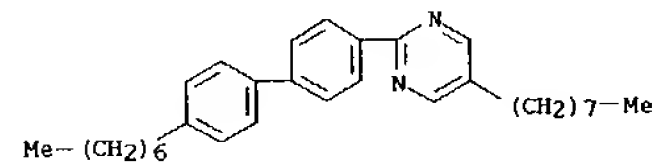
CM 3

CRN 144806-56-4
CMF C29 H46 N2 O



CM 4

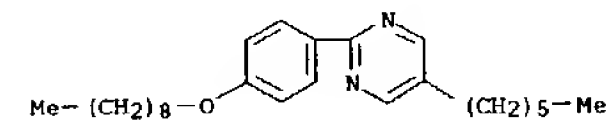
CRN 117433-12-2
CMF C31 H42 N2



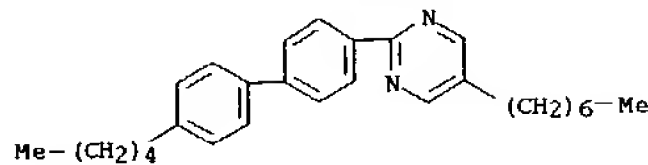
CM 5

CRN 92528-52-4
CMF C28 H36 N2

L9 ANSWER 476 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

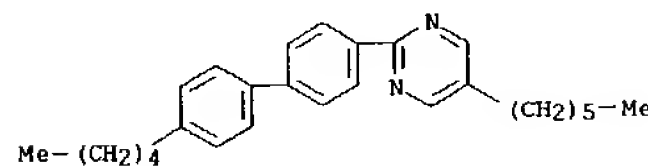


L9 ANSWER 476 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



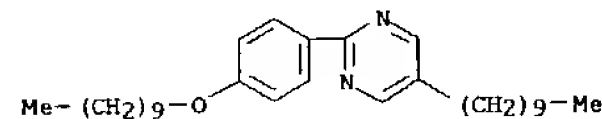
CM 6

CRN 92178-46-6
CMF C27 H34 N2



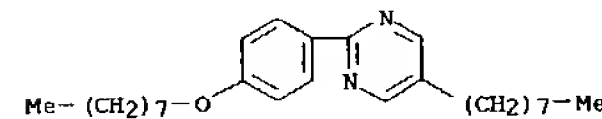
CM 7

CRN 57202-63-8
CMF C30 H48 N2 O



CM 8

CRN 57202-50-3
CMF C26 H40 N2 O

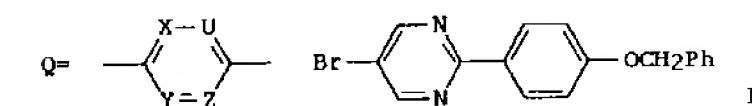


CM 9

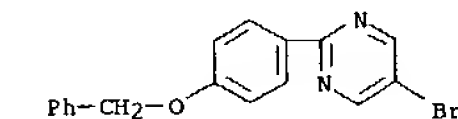
CRN 51462-26-1
CMF C25 H38 N2 O

L9 ANSWER 477 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:483365 CAPLUS
DOCUMENT NUMBER: 121:83365
TITLE: Preparation of (benzyloxy)halobiaryls as liquid crystal components
INVENTOR(S): Schlosser, Hubert; Wingen, Rainer; Manero, Javier
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 32 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------|------|----------|-----------------|----------|
| DE 4236104 | A1 | 19940428 | DE 1992-4236104 | 19921026 |
| WO 9410152 | A1 | 19940511 | WO 1993-EP2732 | 19931006 |
| W: JP, KR, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 665836 | A1 | 19950809 | EP 1993-921924 | 19931006 |
| EP 665836 | B1 | 19980429 | | |
| R: CH, DE, FR, GB, LI | | | | |
| JP 08502499 | T2 | 19960319 | JP 1993-510597 | 19931006 |
| US 5872301 | A | 19990216 | US 1995-428102 | 19950613 |
| PRIORITY APPLN. INFO.: | | | DE 1992-4236104 | 19921026 |
| | | | WO 1993-EP2732 | 19931006 |
| OTHER SOURCE(S): MARPAT 121:83365 | | | | |
| GI | | | | |



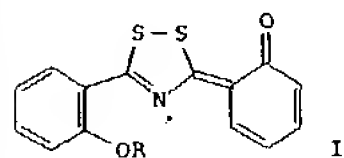
AB RZ1Z2Z3OCH2R1 (R = halo; R1 = (un)substituted Ph; Z1 = bond, 2,6-naphthylene, acylene group Q; U,X,Y,Z = CH, CF, N; Z2 = 2,6-naphthylene, acylene group Q; Z3 = 2,6-naphthylene, (fluoro)-1,4-phenylene] were prepared. Thus, 2,5-dibromopyrimidine was condensed with 4-(PhOH2C)C6H4B(OH)2 to give title compound I.
IT 152915-90-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as liquid crystal component)
RN 152915-90-7 CAPLUS
CN Pyrimidine, 5-bromo-2-[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



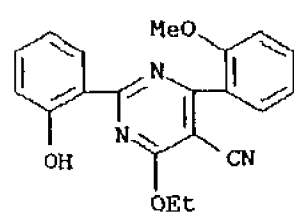
9/811, 359

09/ 835,523

L9 ANSWER 478 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:483289 CAPLUS
 DOCUMENT NUMBER: 121:83289
 TITLE: 1,2,4-Dithiazoles with chinoid substituents as building blocks for the synthesis of heterocyclic compounds
 AUTHOR(S): Briel, Detlef; Leistner, Siegfried
 CORPORATE SOURCE: Fachbereich Biowiss., Univ. Leipzig, Leipzig, D-04103, Germany
 SOURCE: Archiv der Pharmazie (Weinheim, Germany) (1994), 327(6), 389-91
 CODEN: ARPMAS; ISSN: 0365-6233
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 121:83289
 GI

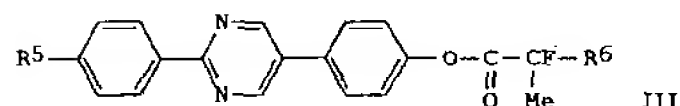
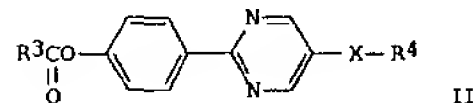
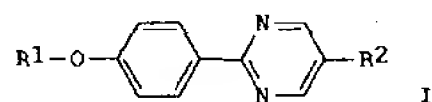


AB 1,2,4-Dithiazoles I (R = H, Me) are useful building blocks for the syntheses of mono- and bicyclic heterocyclic compds. Especially substituted triazoles, oxadiazoles, pyrimidines, triazines, and benzoxazines are obtained. In these reactions I were used as CNC- or OC3NC-synthons.
 IT 156247-77-7P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 156247-77-7 CAPLUS
 CN 5-Pyrimidinecarbonitrile, 4-ethoxy-2-(2-hydroxyphenyl)-6-(2-methoxyphenyl)- (9CI) (CA INDEX NAME)

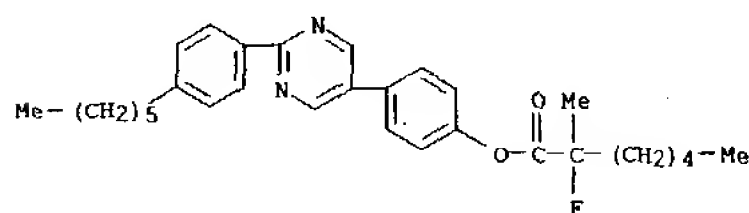


L9 ANSWER 480 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:469100 CAPLUS
 DOCUMENT NUMBER: 121:69100
 TITLE: Ferroelectric liquid-crystal composition and optical switching device therefrom
 INVENTOR(S): Yoshizawa, Atsushi
 PATENT ASSIGNEE(S): Nikko Kyoseki Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 05320649 | A2 | 19931203 | JP 1992-154156 | 19920522 |
| PRIORITY APPLN. INFO.: | | | JP 1992-154156 | 19920522 |
| OTHER SOURCE(S): | | MARPAT 121:69100 | | |
| GI | | | | |

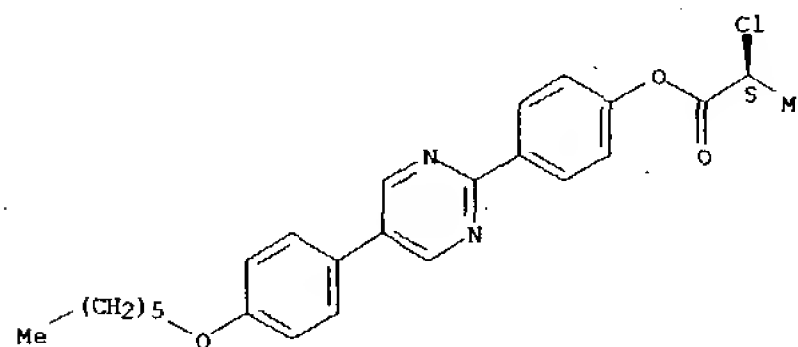


AB The title composition comprises ≥ 1 compound represented by I, ≥ 1 compound represented by II, and ≥ 1 compound represented by III (R1-6 = alkyl; X = direct bond, O; C = asym. carbon center).
 IT 155105-60-5
 RL: USES (Uses)
 (ferroelec. liquid crystal composition containing, for optical switching device)
 RN 155105-60-5 CAPLUS
 CN Heptanoic acid, 2-fluoro-2-methyl-, 4-[2-(4-hexylphenyl)-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 479 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:470155 CAPLUS
 DOCUMENT NUMBER: 121:70155
 TITLE: Liquid crystalline 2-[4-(2-chloroalkanoxyloxy)phenyl]-5-(4-n-hexyloxyphenyl)pyrimidines. New ferroelectric compounds exhibiting interesting polymorphism
 AUTHOR(S): Heppe, G.; Lotzsch, D.; Sharma, N. K.; Demus, D.; Diele, S.; Jahn, K.; Neundorff, M.
 CORPORATE SOURCE: Iwan-N. Stranski-Inst., Tech. Univ. Berlin, Berlin, 10623, UK
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1994), 241, 275-88
 CODEN: MCLCE9; ISSN: 1058-725X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Seven chiral 2-[4-(2-chloroalkanoxyloxy)phenyl]-5-(4-n-hexyloxyphenyl)pyrimidines were synthesized and their liquid crystalline as well as their ferroelec. properties investigated. The new compds. possess a rich variety of polymorphism including 6 different smectic phase types. On the basis of x-ray investigations and miscibility studies these smectic modifications were classified as SmA, SmC*, SmJ*, SmG*, SmH* and SmM* whereby SmM* denotes a smectic phase which presumably is identical to the recently discovered SmM* phase. In the second part the ferroelec. properties of the 2-[4-(2-chloroalkanoxyloxy)phenyl]-5-(4-n-hexyloxyphenyl)pyrimidines were investigated. High values of spontaneous polarization (up to about 400 nC/cm²) were established for the SmC* and SmM* phases of these compds. as well as in one case also for the SmJ* phase.
 IT 156297-96-0P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and liquid crystal and ferroelec. properties of)
 RN 156297-96-0 CAPLUS
 CN Propanoic acid, 2-chloro-, 4-[5-[4-(hexyloxy)phenyl]-2-pyrimidinyl]phenyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 480 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

9/811, 359

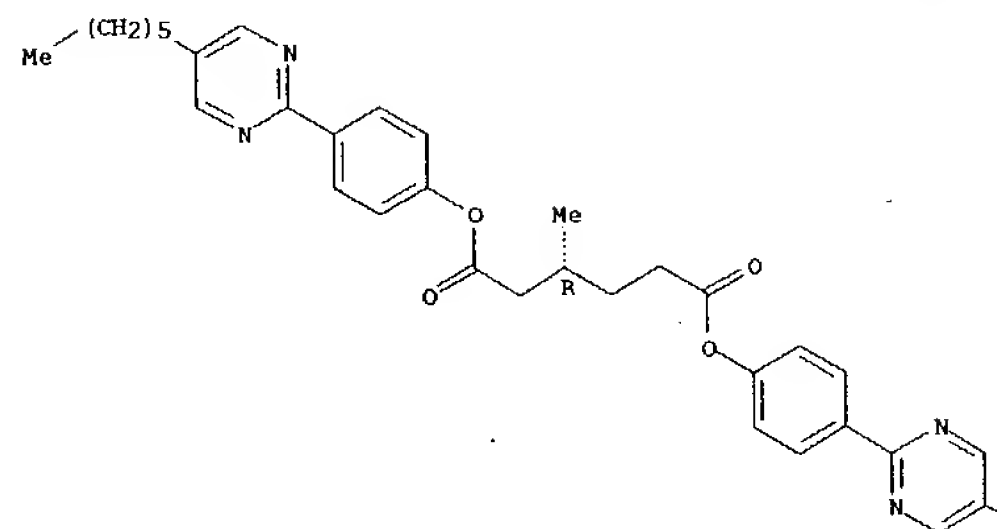
09/835,523

L9 ANSWER 481 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:423357 CAPLUS
 DOCUMENT NUMBER: 121:23357
 TITLE: Mesophasic helical structures with high twisting power in optically active 3-methyladipic acid bis esters
 AUTHOR(S): Yoshizawa, Atsushi; Nishiyama, Isa
 CORPORATE SOURCE: Pet. Lab., Japan Energy Corp., Toda, 335, Japan
 SOURCE: Journal of Materials Chemistry (1994), 4(3), 449-56
 CODEN: JMACEP; ISSN: 0959-9428
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A homologous series of novel twin mols., (R)-3-methyladipic acid bis[4-(5-alkyl-2-pyrimidinyl)phenyl] ester, was prepared and the phys. properties investigated, where the chirality was generated in the system by introducing the chiral center in the central region of the mol. structure. Heptyl and octyl members of the series show a monotropic cholesteric phase. The chirality-dependent properties of the series of the twin materials were compared with those of analogous 'monomeric' materials carrying a chiral center in the peripheral aliphatic chain. Pitch measurements revealed that the twin materials induce a strong helical structure in both cholesteric and chiral smectic C phases. Furthermore, a chiral twin mol. possessing only one Ph ring at each core part, i.e. (R)-3-methyladipic acid bis(4-octyloxyphenyl) ester, was prepared. The S^{*}C pitch of this compound was longer than that for the former series of twin materials. These results allow one to propose a possible model for producing the strong helical structure in the S^{*}C phases where the chirality had been induced by the twin mols. In addition, the strong desire for the twin materials to form a helical ordering in smectic phases was also found to induce an unusual smectic phase, in contact studies with an achiral liquid-crystalline material, where a texture similar to that reported for the twist grain boundary (TGB) phases was observed
 IT 155854-30-1, Bis[4-(5-hexyl-2-pyrimidinyl)phenyl]
 (R)-3-methyladipate
 RL: PKP (Properties)
 (liquid crystal mixture of hexylcyanobiphenyl and, helical pitch in cholesteric phase of)
 RN 155854-30-1 CAPLUS
 CN Hexanedioic acid, 3-methyl-, bis[4-(5-hexyl-2-pyrimidinyl)phenyl] ester, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 481 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

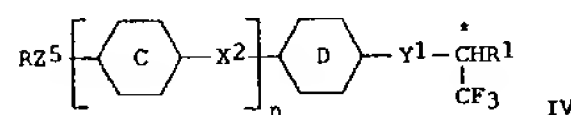
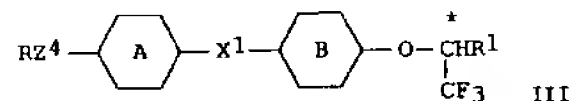
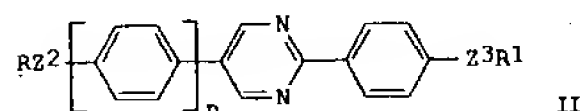
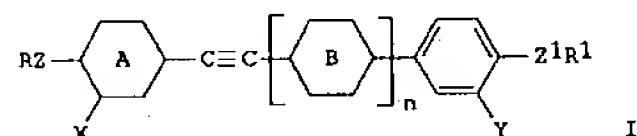
PAGE 1-A



PAGE 1-B

L9 ANSWER 482 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:422665 CAPLUS
 DOCUMENT NUMBER: 121:22665
 TITLE: Ferroelectric liquid crystal composition and liquid crystal device
 INVENTOR(S): Kodon, Mitsuhiro; Kuratate, Tomoaki; Kuwae, Yoshiteru
 PATENT ASSIGNEE(S): Sharp Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

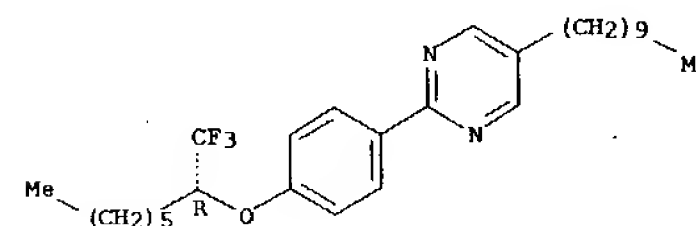
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 05065485 | A2 | 19930319 | JP 1991-226212 | 19910905 |
| JP 2825371 | B2 | 19981118 | | |
| PRIORITY APPLN. INFO.: | | JP 1991-226212 | 19910905 | |
| OTHER SOURCE(S): | | MARPAT 121:22665 | | |
| GI | | | | |



AB A ferroelec. liquid crystal composition contains at least one (hetero)arylacetylene derivative (I; X, Y = H, F; Z = single bond, O; Z1 = CO2, O; ring A = phenylene, pyridinediyl, pyridazinediyl; ring B = phenylene, pyridinediyl; n = 0, 1; R, R1 = Cl-11 linear or branched alkyl) and at least one phenylpyrimidine derivative (II; Z2, Z3 = single bond, O; R, R1 = Cl-15 linear or branched alkyl; n = 0, 1). Addnl. it contains optically active ethers (III; X1 = C.tplbond.C, single bond; ring A = phenylene, pyridinediyl, pyridazinediyl; ring B = phenylene, pyridinediyl; R, R1 = Cl-15 linear or branched alkyl; Z4 = single bond, O; star denotes an asym. C atom) and/or optically active esters or ethers (IV; n = 0, 1; X2 = C.tplbond.C, CH2CH2, single bond; Y1 = CO2, CH2O; ring C = phenylene, cyclohexylene, pyridinediyl; ring D = phenylene, cyclohexylene, pyridinediyl; ring E = phenylene, pyridinediyl;

L9 ANSWER 482 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 2,6-naphthylene, cyclohexylene; R, R1 = Cl-15 linear or branched alkyl; Z5 = single bond, O; star denotes an asym. C atom), etc. Said liq. crystal compn. shows at least chiral nematic, smectic A, and chiral smectic C phase at the lower temp. side of a isotropic liq. This liq. crystal compn. shows a broad range of working temp., good orientation and memory properties, high speed response. at room temp., and large tilt angles.
 IT 153845-66-0
 RL: USES (Uses)
 (ferroelec. liquid crystal composition containing, for display with high speed response. and good orientation)
 RN 153845-66-0 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[[1-(trifluoromethyl)heptyl]oxy]phenyl]-, (R)- (9CI) (CA INDEX NAME)

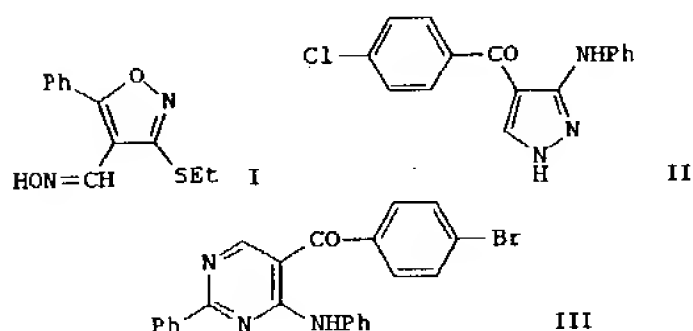
Absolute stereochemistry.



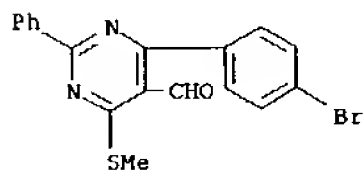
9/811, 359

09/835,523

L9 ANSWER 483 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:409304 CAPLUS
 DOCUMENT NUMBER: 121:9304
 TITLE: Acylformylketene acetals: versatile synthons for the synthesis of isoxazoles, pyrazoles and pyrimidines
 AUTHOR(S): Rudolf, Wolf Dieter; Koeditz, Jens; Henze, Nadja
 CORPORATE SOURCE: Inst. Org. Chem., Martin Luther Univ., Weinbergweg, D-O-4050, Germany
 SOURCE: Sulfur Letters (1993), 16(2), 77-89
 CODEN: SULED2; ISSN: 0278-6117
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

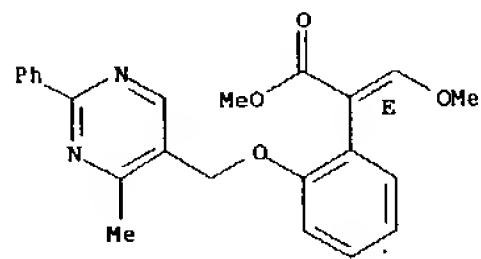


AB 2-Aroyl-3,3-bis(alkylthio)-2-propenals and 3-anilino-2-acyl-3-methylthio-2-propenals react with various dinucleophiles such as hydroxylamine, hydrazines, and amidines to yield isoxazoles, e.g. I, pyrazoles, e.g. II, and pyrimidines e.g. III.
 IT 155494-75-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 155494-75-0 CAPLUS
 CN 5-Pyrimidinecarboxaldehyde, 4-(4-bromophenyl)-6-(methylthio)-2-phenyl- (9CI) (CA INDEX NAME)



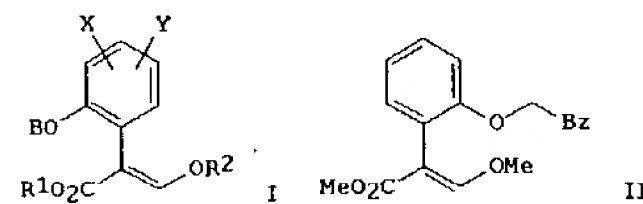
L9 ANSWER 484 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

Double bond geometry as shown.



L9 ANSWER 484 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:408893 CAPLUS
 DOCUMENT NUMBER: 121:8893
 TITLE: Phenyl-substituted acrylate ester agrochemical fungicides
 INVENTOR(S): Mueller, Bernd; Roehl, Franz; Koenig, Hartmann; Sauter, Hubert; Lorenz, Gisela; Ammermann, Eberhard
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Eur. Pat. Appl., 86 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------|------|----------|-----------------|----------|
| EP 581095 | A2 | 19940202 | EP 1993-111103 | 19930712 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE | | | | |
| CA 2100546 | AA | 19940125 | CA 1993-2100546 | 19930714 |
| JP 06211748 | A2 | 19940802 | JP 1993-181305 | 19930722 |
| AU 9342121 | A1 | 19940127 | AU 1993-42121 | 19930723 |
| AU 660226 | B2 | 19950615 | | |
| HU 66105 | A2 | 19940928 | HU 1993-2150 | 19930723 |
| ZA 9305332 | A | 19950123 | ZA 1993-5332 | 19930723 |
| PRIORITY APPLN. INFO.: DE 1992-4224457 | | | | 19920724 |
| OTHER SOURCE(S): MARPAT 121:8893 | | | | |
| GI | | | | |



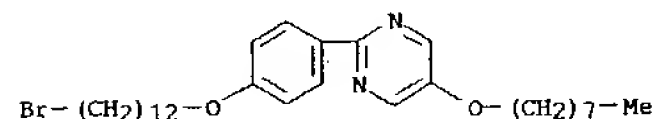
AB The title compds. [I; B = (un)substituted alkyl, Cl-4 (un)substituted alkenyl, (un)substituted alkynyl, etc.; R1, R2 = (un)substituted alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, etc.; X, Y = H, halogen, CN, NO2, haloalkyl, alkyl, alkenyl, alkynyl, heteroaryl, heterocyclyl, etc.], useful as agrochem. fungicides, are prepared and I-containing formulations presented. Thus, Me α -(2-hydroxyphenyl)- β -methoxyacrylate was condensed with phenacyl bromide, producing acrylate II, m.p. 76°, which demonstrated 90% inhibitory activity against Plasmopara viticola at 250 ppm.
 IT 154594-91-9P
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as agrochem. fungicide)
 RN 154594-91-9 CAPLUS
 CN Benzeneacetic acid, α -(methoxymethylene)-2-[(4-methyl-2-phenyl-5-pyrimidinyl)methoxy]-, methyl ester, (E)- (9CI) (CA INDEX NAME)

L9 ANSWER 485 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:335801 CAPLUS
 DOCUMENT NUMBER: 120:335801
 TITLE: Preparation of nonoptically active alkanolic acid arylalkyl esters with lower molecular weight as liquid crystals
 INVENTOR(S): Ido, Motohisa; Yuasa, Koyo
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| JP 06009503 | A2 | 19940118 | JP 1993-115255 | 19930420 |
| PRIORITY APPLN. INFO.: JP 1992-127978 | | | | 19920422 |
| OTHER SOURCE(S): MARPAT 120:335801 | | | | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. (I; R1 = Q - Q7; R2 = nonoptically active C4-20 alkyl; 1, m = 0-10; k = 1-20; Y = single bond, O, CO2, O2C) are prepared. These low mol. weight compds. I are added to a ferroelec. liquid crystal composition to improve responsiveness to elec. field, do not easily crystallize to cause phase separation, and thus provide ferroelec. liquid crystal compns. with large tilt angles and long term stability. Thus, 4-(12-bromododecyloxy)benzoic acid was reacted with SOCl2 in PhMe containing a few drops of pyridine at 65° and then condensed with 2-(4-hydroxyphenyl)-5-decylpyrimidine in pyridine-PhMe to give 58% benzoic acid ester (II; R = Br) which was esterified with Me3CCO2H in DMF containing Me4NOH to give 79% trimethylacetic acid ester II (R = Me3CO2). The latter compound showed a nematic \rightarrow smectic C phase transition at 88°. A total of 13 were prepared.
 IT 153580-88-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as intermediate for liquid crystal phenoxydodecyl trimethylacetate derivative)
 RN 153580-88-2 CAPLUS
 CN Pyrimidine, 2-[4-[(12-bromododecyl)oxy]phenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME)



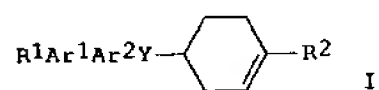
9/811, 359

09/ 835, 523

L9 ANSWER 486 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:335797 CAPLUS
 DOCUMENT NUMBER: 120:335797
 TITLE: Cyclohexene derivatives and ferroelectric liquid-crystal compositions containing them
 INVENTOR(S): Wand, Michael D.; Vohra, Rohini T.; More, Kundalika M.; Thurmes, William N.
 PATENT ASSIGNEE(S): Displaytech, Inc., USA
 SOURCE: U.S., 25 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

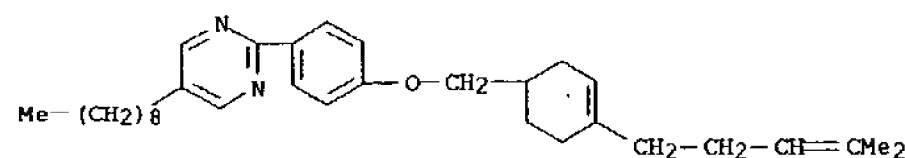
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| US 5271864 | A | 19931221 | US 1992-926503 | 19920807 |
| JP 07101893 | A2 | 19950418 | JP 1993-193688 | 19930804 |
| EP 582489 | A1 | 19940209 | EP 1993-306244 | 19930806 |

R: DE, FR, GB
 PRIORITY APPLN. INFO.: US 1992-926503 19920807
 OTHER SOURCE(S): MARPAT 120:335797
 GI

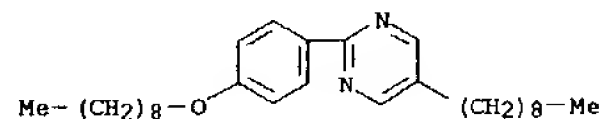


AB Ferroelec. liquid-crystal compds. and compns. containing cyclohexenyl derivs. are provided, specifically, compds. of formula I, where R1, R2 = C1-20 alkyl, cycloalkyl, alkenyl, alkoxy, thioalkyl, or alkylsilyl; Y = -COO-, -OOC-, -CH2O-, or -OCH2-; and Ar1, Ar2 = 1,4-phenylene, mono- or difluoro-1,4-phenylene, 2,5-pyridinylene, 2,5-pyrimidinylene, 2,5-pyrazinylene, 2,5-thiadiazoldiyl, 3,6-pyridazinylene, or 1,4-cyclohexylene; Ar1 and/or Ar2 contains N.
 IT 155468-73-8
 RL: PRP (Properties)
 (ferroelec. liquid crystal)
 RN 155468-73-8 CAPLUS
 CN Pyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]-, mixt. with 5-heptyl-2-[4-(hexyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(heptyloxy)phenyl]-5-nonylpyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 2-[4-[[4-(4-methyl-3-pentenyl)-3-cyclohexen-1-yl]methoxy]phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
 CM 1
 CRN 155468-50-1
 CMF C32 H46 N2 O

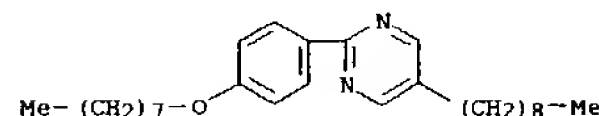
L9 ANSWER 486 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



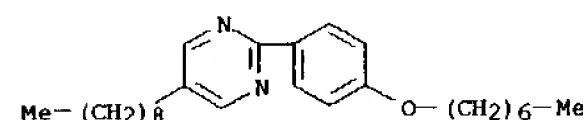
CM 2
 CRN 99895-85-9
 CMF C28 H44 N2 O



CM 3
 CRN 57202-58-1
 CMF C27 H42 N2 O

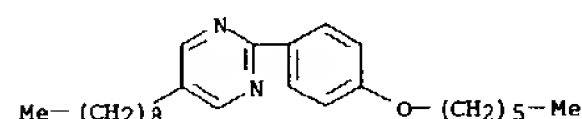


CM 4
 CRN 57202-57-0
 CMF C26 H40 N2 O

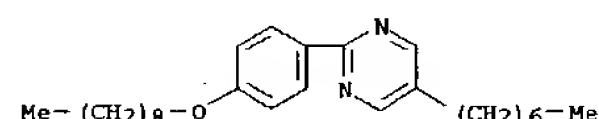


CM 5
 CRN 57202-56-9
 CMF C25 H38 N2 O

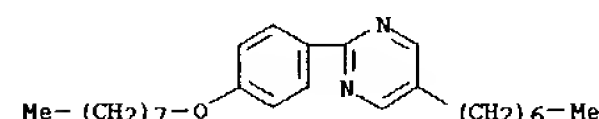
L9 ANSWER 486 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



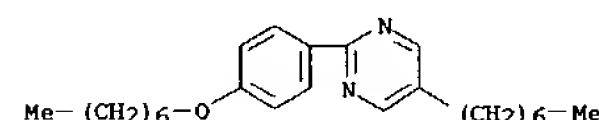
CM 6
 CRN 57202-40-1
 CMF C26 H40 N2 O



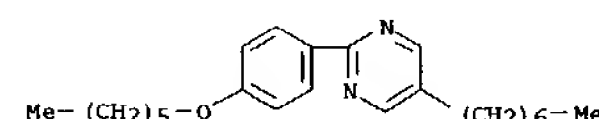
CM 7
 CRN 57202-39-8
 CMF C25 H38 N2 O



CM 8
 CRN 57202-38-7
 CMF C24 H36 N2 O



CM 9
 CRN 57202-37-6
 CMF C23 H34 N2 O



L9 ANSWER 486 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

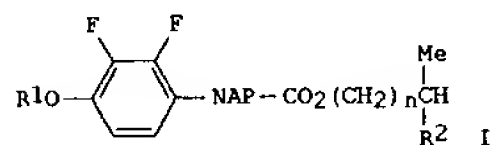
9/811, 359

09/ 835, 523

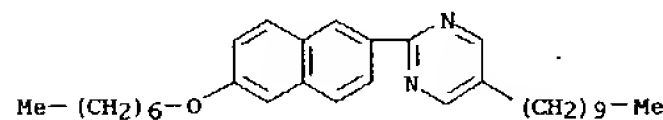
L9 ANSWER 487 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:335203 CAPLUS
DOCUMENT NUMBER: 120:335203
TITLE: Liquid crystal naphthalene compound and its composition for display
INVENTOR(S): Sato, Masahiro; Watanabe, Tetsuya; Sugita, Naoko; Yoshio, Kunikyo; Yanagi, Tatsuro
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06025102 | A2 | 19940201 | JP 1992-206002 | 19920708 |

PRIORITY APPLN. INFO.: JP 1992-206002 19920708
OTHER SOURCE(S): MARPAT 120:335203
GI



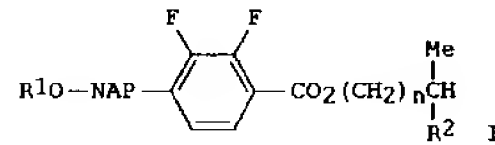
AB The compound consists of naphthalene derivative I (R1 = C1-18 alkyl; R2 = C2-10 alkyl; NAP = 2,6-C10H6; n = 0-9). The composition consists of a mixture containing
≥1 I. The compound showed high alignment and contrast ratio.
IT 155378-54-4
RL: USES (Uses)
(liquid crystal composition containing naphthalene derivative and, with high alignment and contrast ratio, for display)
RN 155378-54-4 CAPLUS
CN Pyrimidine, 5-decyl-2-[6-(heptyloxy)-2-naphthalenyl]- (9CI) (CA INDEX NAME)



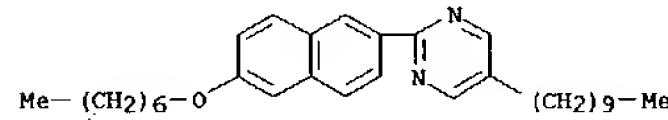
L9 ANSWER 488 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:335202 CAPLUS
DOCUMENT NUMBER: 120:335202
TITLE: Liquid crystal naphthalene compound and its composition for display
INVENTOR(S): Sato, Masahiro; Watanabe, Tetsuya; Sugita, Naoko; Yoshio, Kunikyo; Yanagi, Tatsuro
PATENT ASSIGNEE(S): Sanyo Chemical Ind Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06025101 | A2 | 19940201 | JP 1992-206001 | 19920708 |

PRIORITY APPLN. INFO.: JP 1992-206001 19920708
OTHER SOURCE(S): MARPAT 120:335202
GI



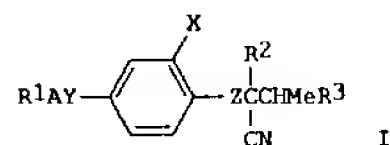
AB The compound consists of naphthalene derivative I (R1 = C1-18 alkyl; R2 = C2-10 alkyl; NAP = 2,6-C10H6; n = 0-9). The composition consists of a mixture containing
≥1 I. The compound showed high alignment and contrast ratio.
IT 155378-54-4
RL: USES (Uses)
(liquid crystal composition containing naphthalene derivative and, with high alignment and contrast ratio, for display)
RN 155378-54-4 CAPLUS
CN Pyrimidine, 5-decyl-2-[6-(heptyloxy)-2-naphthalenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 489 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:335192 CAPLUS
DOCUMENT NUMBER: 120:335192
TITLE: Preparation of optically-active 1-cyano-2-methylalkyl compounds for chiral smectic C liquid-crystal compositions
INVENTOR(S): Sugita, Shinichi; Toda, Susumu; Yoshasu, Takashi
PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

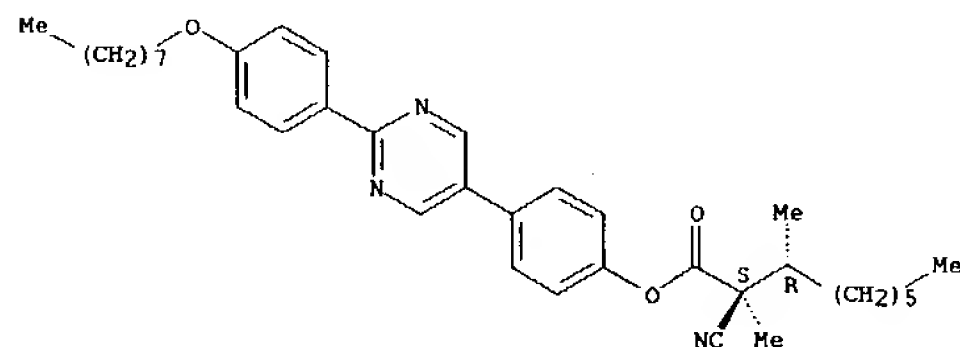
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 06009534 | A2 | 19940118 | JP 1992-193223 | 19920627 |

PRIORITY APPLN. INFO.: JP 1992-193223 19920627
OTHER SOURCE(S): MARPAT 120:335192
GI



AB The title compds. I (R1 = alkyl, alkoxy, alkoxycarbonyl, alkanoyloxy; R2-3 = alkyl; A = 1 group or a combination of 2 groups selected from 1,4-C6H4, 2,5-pyrimidinediyl, 1,4-cyclohexylene; X = H, halo; Y = CO2, CH2O; Z = OCO, CH2OCO, CO) are claimed. I are useful as components of chiral smectic C liquid-crystal compns. to improve ferroelec. property, and provide display devices with high speed response and wide mesomorphic range.
IT 155170-96-0P
RL: PREP (Preparation)
(preparation of, as additive for chiral smectic C liquid-crystal compns.)
RN 155170-96-0 CAPLUS
CN Nonanoic acid, 2-cyano-2,3-dimethyl-, 4-[2-[4-(octyloxy)phenyl]-5-pyrimidinyl]phenyl ester, [S-(R*,S*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 489 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

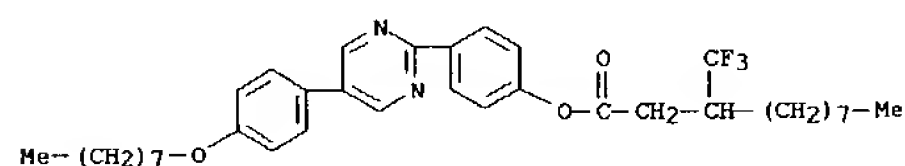
9/811, 359

09/ 835, 523

L9 ANSWER 490 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:335172 CAPLUS
 DOCUMENT NUMBER: 120:335172
 TITLE: Optically active compound and liquid-crystal composition and device, and display apparatus and method, using it.
 INVENTOR(S): Nohira, Hiroyuki; Takiguchi, Takao; Iwaki, Takashi; Togano, Takeshi; Yamada, Yoko; Nakamura, Shinichi; Sakaigawa, Akira
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: U.S., 32 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| US 5281362 | A | 19940125 | US 1992-834390 | 19920212 |
| JP 05065276 | A2 | 19930319 | JP 1992-9286 | 19920122 |
| JP 06084357 | B4 | 19941026 | | |
| US 5281362 | A | 19940125 | US 1992-934390 | 19920212 |
| AT 187444 | E | 19991215 | AT 1992-102310 | 19920212 |
| | | | JP 1991-19938 | 19910213 |
| | | | JP 1992-9286 | 19920122 |

PRIORITY APPLN. INFO.: JP 1991-19938
 OTHER SOURCE(S): MARPAT 120:335172
 AB The optically active compound has the formula R1ACGH4XCH2CH(CF3)R2, where R1 = C1-18 alkyl or alkoxy; R2 = C1-12 alkyl; A = pyrimidinylphenylene or phenylpyrimidinylene; and X = OOC or OCH2. The optically active compound, when included as a component, provides a ferroelec. liquid-crystal composition or device showing improved elec.-field response.
 IT 152243-49-7P
 RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation of, for liquid-crystal comps. and display devices)
 RN 152243-49-7 CAPLUS
 CN Undecanoic acid, 3-(trifluoromethyl)-, 4-[5-[4-(octyloxy)phenyl]-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



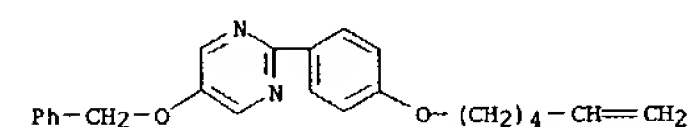
L9 ANSWER 492 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:312490 CAPLUS
 DOCUMENT NUMBER: 120:312490
 TITLE: Ferroelectric liquid crystalline silicon-containing copolymers, their preparation, mixtures of the copolymer with low-molecular-weight materials, and their use in electrooptical devices
 INVENTOR(S): Jungbauer, Dietmar; Simmrock, Hans Ulrich; Walton, Connie Renee; Walton, Connie Renee Dr
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 24 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| DE 4300435 | A1 | 19930729 | DE 1993-4300435 | 19930109 |
| | | | DE 1992-4201149 | 19920117 |
| | | | DE 1992-4225331 | 19920731 |

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

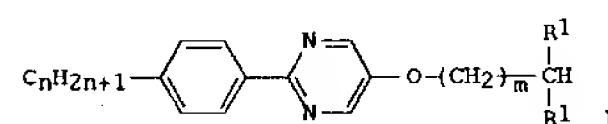
AB The title copolymers have a dimethylsiloxane content of 20.75 in main chain structures described by the general formulas I and II (X1 and X2 are independently selected from (CH2)t-CH3, (CH2)t-COOH, (CH2)t-Cl, (CH2)t-NH2, (CH2)t-OH, (CH2)t-OC(O)CF3, (O-CH2-CH2)t-OH; t = 1-20; Y1-5 = selected mesogenic residues; l, m, p, q, r, and s are independently selected from 0 or whole nos. in the range 1-100; 1 + m + p + q + r + s > 2; >2 of m, p, q, and r are >0; and n = 1-500); their prepn entails dissolving monomers described by the general formula III with dichlorodimethylsilane and optionally chlorotrimethylsilane in a polar aprotic solvent and refluxing for 1 min to 100 h along with a stoichiometric amount (based on the number of reactive S-Cl bonds) of water and at least a stoichiometric amount of a base. Liquid crystal mixts. containing >2 components are described which contain >1 of the copolymers; the use of the mixts. in electrooptical devices (e.g., displays) is also described.
 IT 154839-01-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in siloxane polymer liquid crystal preparation)
 RN 154839-01-7 CAPLUS
 CN Pyrimidine, 2-[4-(5-hexenyloxy)phenyl]-5-(phenylmethoxy)- (9CI) (CA INDEX NAME)



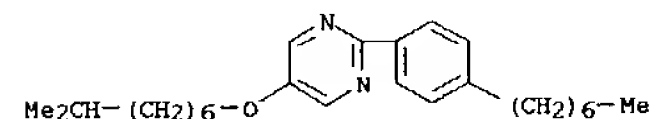
L9 ANSWER 491 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:335131 CAPLUS
 DOCUMENT NUMBER: 120:335131
 TITLE: Ferroelectric liquid crystal composition for liquid crystal display with fast response time
 INVENTOR(S): Ichihashi, Mitsuyoshi; Oonaka, Takami; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05186772 | A2 | 19930727 | JP 1992-21965 | 19920110 |
| | | | JP 1992-21965 | 19920110 |

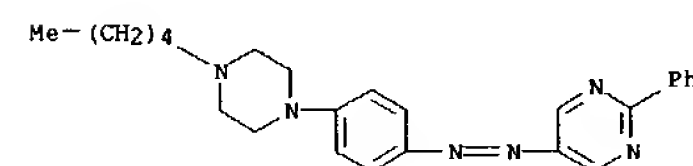
PRIORITY APPLN. INFO.: JP 1992-21965
 OTHER SOURCE(S): MARPAT 120:335131
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AB In the title composition consisting of a chiral compound and an achiral compound, the achiral compound is I (R1 = Me, Et; n = 3-16; m = 4-16) constituting 3-50% of the total composition. The chiral compound is R2ABOCH2CFH(CH)POR3 [A, B = (halo- or CN-substituted) divalent aromatic hydrocarbon moiety, divalent aliphatic hydrocarbon moiety- or N-containing divalent heterocyclyl; R2 = (halo-substituted) alkyl or alkoxy (>1 non-adjacent methylene may be substituted by O, S, or CO); R3 = alkyl; p = 4-11]. The composition shows fast response and excellent alignment characteristics.
 IT 155364-28-6
 RL: USES (Uses)
 (achiral additive, liquid crystal composition containing)
 RN 155364-28-6 CAPLUS
 CN Pyrimidine, 2-(4-heptylphenyl)-5-[(7-methyloctyl)oxy]- (9CI) (CA INDEX NAME)



L9 ANSWER 493 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:312425 CAPLUS
 DOCUMENT NUMBER: 120:312425
 TITLE: Guest-host effect in polymer-encapsulated nematic liquid crystals
 AUTHOR(S): Zharkova, G. M.; Strel'tsov, S. A.; Khachatryan, V. M.
 CORPORATE SOURCE: Inst. Teor. Prikl. Mekh., Russia
 SOURCE: Zhurnal Strukturnoi Khimii (1993), 34(6), 114-17
 CODEN: ZSTKAI; ISSN: 0136-7463
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Electrooptical material comprising nematic liquid crystals encapsulated in poly(vinyl acetate) matrix and containing dyes were studied. They optically respond to elec. field and can be used for displays and light valves. The effect of azo- and anthraquinone dyes on the optical d. of liquid crystalline composites was studied. The dye fraction dissolved in the liquid crystals and the molar absorption coeffs. were determined; the effect of dyes on scattering by the liquid crystal composites was calculated
 IT 155267-97-3
 RL: PRP (Properties)
 (poly(vinyl acetate)-encapsulated liquid crystalline pentylcyanobiphenyl containing, guest-host effect in)
 RN 155267-97-3 CAPLUS
 CN Pyrimidine, 5-[[4-(4-pentyl-1-piperazinyl)phenyl]azo]-2-phenyl- (9CI) (CA INDEX NAME)



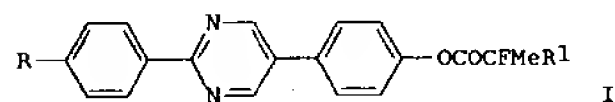
9/811, 359

09/ 035,523

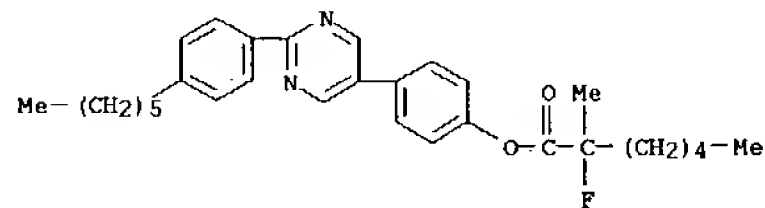
L9 ANSWER 494 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:311879 CAPLUS
 DOCUMENT NUMBER: 120:311879
 TITLE: Preparation of diphenylpyrimidine derivatives, liquid-crystal compositions containing them, and optical switching devices
 INVENTOR(S): Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Nikko Kyoseki Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 05320140 | A2 | 19931203 | JP 1992-154157 | 19920522 |
| PRIORITY APPLN. INFO.: | | JP 1992-154157 19920522 | | |
| OTHER SOURCE(S): | | MARPAT 120:311879 | | |

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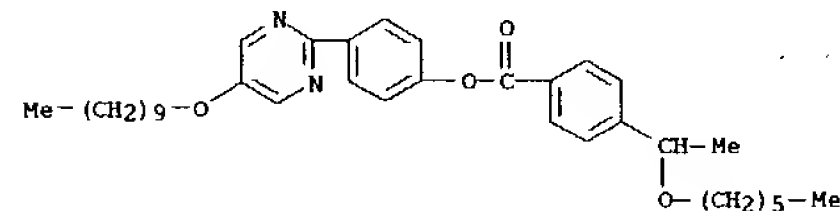
AB The title derivs. I (R, R1 = C2-18 alkyl), liquid-crystal compns. containing optically-active I, and optical switching devices using ≥ 1 optically-active I as a constituent are claimed. I show a chiral smectic C liquid-crystal phase and chiral smectic C compns. containing I provide display devices showing high-speed response.
 IT 155105-60-5P, 2-(4-Hexylphenyl)-5-[4-(2-fluoro-2-methylheptanoyloxy)phenyl]pyrimidine
 RL: PREP (Preparation)
 (preparation of, as chiral smectic C liquid crystal)
 RN 155105-60-5 CAPLUS
 CN Heptanoic acid, 2-fluoro-2-methyl-, 4-[2-(4-hexylphenyl)-5-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 496 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:311808 CAPLUS
 DOCUMENT NUMBER: 120:311808
 TITLE: Liquid crystal composition displaying ferroelectric chiral smectic C phase and liquid crystal element using same
 INVENTOR(S): Sekine, Chizu; Fujisawa, Koichi; Minami, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 05156254 | A2 | 19930622 | JP 1991-317620 | 19911202 |
| PRIORITY APPLN. INFO.: | | JP 1991-317620 19911202 | | |
| OTHER SOURCE(S): | | MARPAT 120:311808 | | |

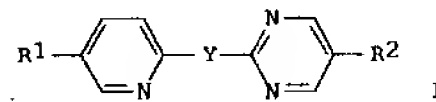
AB The title composition is made by adding a compound A-R (A = Ph, pyridyl, H; R = C6-22 linear alkyl) (a non-liquid crystalline compound) to a liquid crystal compound or composition displaying ferroelec. chiral smectic C phase. The composition shows superior responding time and orientation property compared with the conventional liquid crystal compds. displaying ferroelec. chiral smectic C phase and a liquid crystal element using the composition shows improved high-speed responding property and contrast ratio.
 IT 154732-59-9
 RL: USES (Uses)
 (liquid crystal compound, displaying ferroelec. chiral smectic C phase)
 RN 154732-59-9 CAPLUS
 CN Benzoic acid, 4-[1-(hexyloxy)ethyl]-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester (9CI) (CA INDEX NAME)



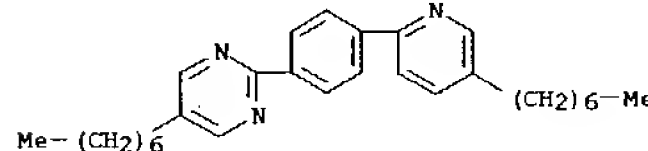
L9 ANSWER 495 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:311869 CAPLUS
 DOCUMENT NUMBER: 120:311869
 TITLE: Preparation of (pyridylphenyl)pyrimidine derivatives and liquid-crystal compositions containing them
 INVENTOR(S): Yamada, Hisao; Nigorikawa, Kazunori; Oonaka, Takami; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 05301871 | A2 | 19931116 | JP 1992-103211 | 19920422 |
| PRIORITY APPLN. INFO.: | | JP 1992-43767 19920228 | | |
| OTHER SOURCE(S): | | MARPAT 120:311869 | | |

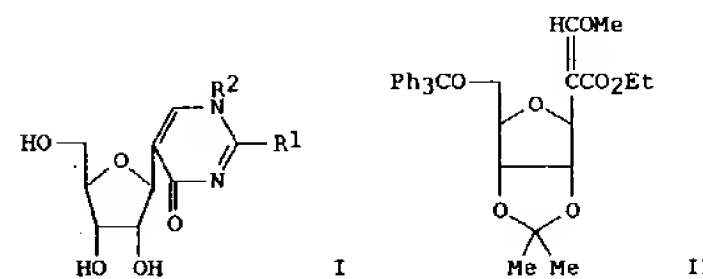
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AB The title derivs. I (R1-2 = C1-20 alkyl, alkoxy, alkoxyalkyl, OH; Y = 1,4-phenylene which may have 1-2 F) and liquid-crystal compns. containing I are claimed. I are useful as components for chiral nematic or chiral smectic C liquid-crystal compns. to make the helical pitch longer, and are useful for liquid-crystal display devices.
 IT 154923-60-1P
 RL: PREP (Preparation)
 (preparation of, as helical pitch controller for chiral nematic and chiral smectic C liquid-crystal compns.)
 RN 154923-60-1 CAPLUS
 CN Pyrimidine, 5-heptyl-2-[4-(5-heptyl-2-pyridinyl)phenyl]- (9CI) (CA INDEX NAME)

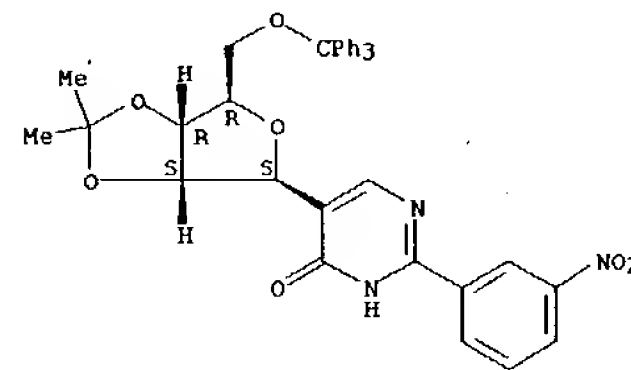


L9 ANSWER 497 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:299178 CAPLUS
 DOCUMENT NUMBER: 120:299178
 TITLE: Synthesis of analogs of pseudoisocytidine
 AUTHOR(S): Dong, Lingjiao; Zhang, Dong; Ouyang, Jun; Wang, Yu; Ma, Lingtai; Zhang, Lihe
 CORPORATE SOURCE: Sch. Pharm. Sci., Beijing Med. Univ., Beijing, 100083, Peop. Rep. China
 SOURCE: Gaodeng Xuexiao Huaxue Xuebao (1993), 14(9), 1235-8
 CODEN: KTHPDM; ISSN: 0251-0790
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 OTHER SOURCE(S): CASREACT 120:299178
 GI



AB Title compds. I (R1, R2 = NH2, H; NH2, Me; NHMe, H; NHPh, Ph; NHNO2, H; H, PhNO2, H) were prepared stating from D-(+)-ribose via cyclocondensation of ester II with H2NC(NR2)R1.
 IT 154844-24-3P
 RL: PREP (Preparation)
 (intermediate in synthesis of pseudoisocytidine analogs)
 RN 154844-24-3 CAPLUS
 CN 4(1H)-Pyrimidinone, 5-[2,3-O-(1-methylethylidene)-5-O-(triphenylmethyl)-β-D-ribofuranosyl]-2-(3-nitrophenyl)- (9CI) (CA INDEX NAME)

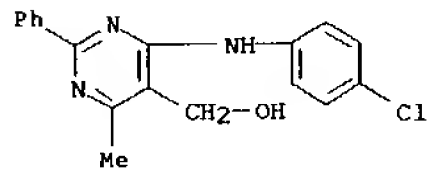
Absolute stereochemistry.



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09/ 835,523

L9 ANSWER 498 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:298579 CAPLUS
 DOCUMENT NUMBER: 120:298579
 TITLE: Synthesis and biological properties of
 5-(hydroxymethyl)pyrimidines
 AUTHOR(S): Cieplik, Jerzy; Machon, Zdzislaw; Zimecki, Michal;
 Wieczorek, Zbigniew
 CORPORATE SOURCE: Org. Chem. Dep., Med. Acad., Wroclaw, 50-137, Pol.
 SOURCE: Archivum Immunologiae et Therapiae Experimentalis
 (1993), 41(1), 11-15
 CODEN: AITEAT; ISSN: 0004-069X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Reduction of 4-(arylamino)-6-methyl-2-phenyl-5-pyrimidinecarboxylic acid and
 its Et ester as well as 5,7-dihydrofuro[3,4-d]pyrimidines gave
 4-(arylamino)-6-methyl-2-phenyl-5-(hydroxymethyl)pyrimidines exhibiting
 strong immunomodulatory and cytostatic properties.
 IT 154957-61-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and antitumor and immunomodulatory activity of)
 RN 154957-61-6 CAPLUS
 CN 5-Pyrimidinemethanol, 4-[(4-chlorophenyl)amino]-6-methyl-2-phenyl- (9CI)
 (CA INDEX NAME)



L9 ANSWER 499 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:285215 CAPLUS
 DOCUMENT NUMBER: 120:285215
 TITLE: Liquid crystal display device
 INVENTOR(S): Shiomi, Makoto; Koden, Mitsuhiro; Shinomya, Tokihiko;
 Kuratate, Tomoaki; Taniguchi, Tsunako
 PATENT ASSIGNEE(S): Sharp KK, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05173144 | A2 | 19930713 | JP 1991-343596 | 19911225 |
| PRIORITY APPLN. INFO.: | | | JP 1991-343596 | 19911225 |
| OTHER SOURCE(S): | | MARPAT 120:285215 | | |

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A liquid crystal device comprises a pair of opposing transparent substrate, transparent electrodes fabricated on each surface of the substrates, orientation films coated on the electrodes, and a ferroelec. liquid crystal with a chiral smectic C phase filled between the pair of substrates. The opposing substrates possessing oriented orientation films are so arranged that the orientation-treatment directions are roughly parallel. The orientation film comprises an organic orientation film with a pretilt angle 8-20° due to the orientation treatment. The ferroelec. liquid crystal layer consists of a ferroelec. liquid crystal composition with a chevron structure containing at least one of liquid crystal compds. (I, II, III, IV, and V; R1, R2 = C1-15 linear or branched alkyl; l, m, n = 0,1; X = H, F; X1 = cyano, F; Y = single bond, CO2; ring A, B = 1,4-phenylene, 1,4-cyclohexylene, naphthalene-1,6-diyl). This liquid crystal display apparatus provides high matrix-type display with large capacity and high contrast and shows no flickering by the 1/3 bias (partial rewriting) method in which only a part of a display required to rewrite is accessed.

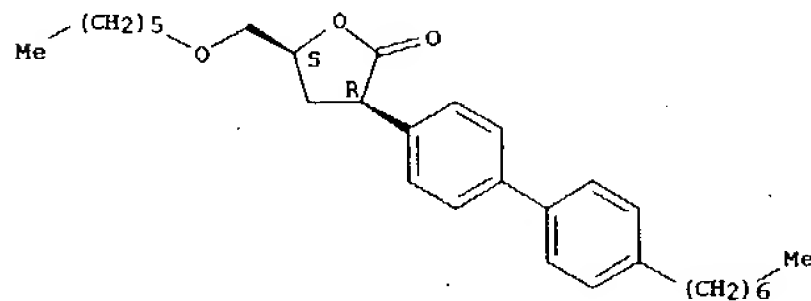
IT 153925-71-4
 RL: USES (Uses)
 (ferroelec. liquid crystal composition, for high contrast display)
 RN 153925-71-4 CAPLUS
 CN D-threo-Pentonic acid, 2-butyl-2,3-dideoxy-5-O-[4-(4-pentylcyclohexyl)phenyl]-, γ-lactone, trans-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2,3-dideoxy-2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-O-hexyl-D-threo-pentonic acid γ-lactone, 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-hexylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-hexyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-(4-octylphenyl)-2-[4-(pentyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

L9 ANSWER 499 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

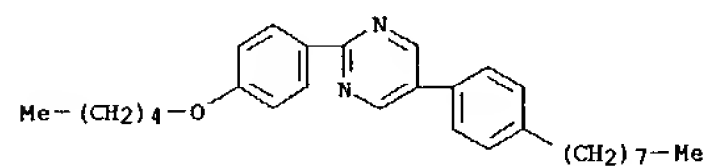
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 CMF C30 H42 O3

Absolute stereochemistry.



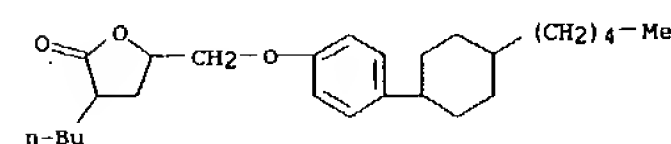
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CRN 135331-20-3
 CMF C29 H38 N2 O



CM 3

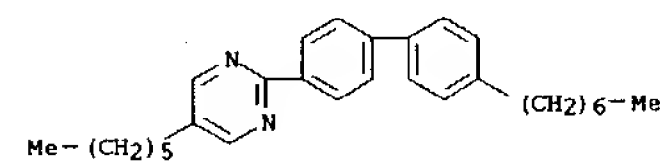
CRN 122459-42-1
 CMF C26 H40 O3



CM 4

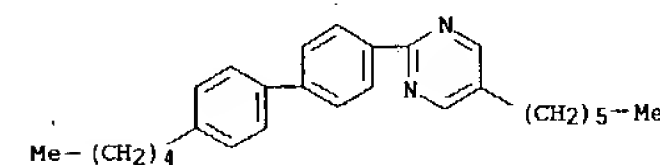
CRN 92519-52-3
 CMF C29 H38 N2

L9 ANSWER 499 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



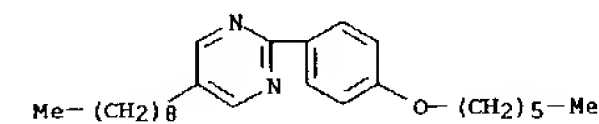
CM 5

CRN 92178-46-6
 CMF C27 H34 N2



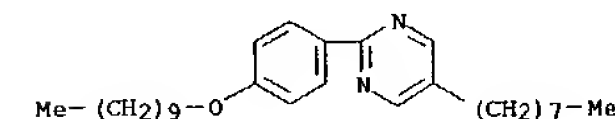
CM 6

CRN 57202-56-9
 CMF C25 H38 N2 O



CM 7

CRN 57202-52-5
 CMF C28 H44 N2 O



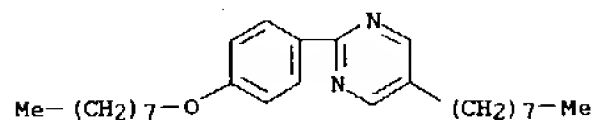
CM 8

CRN 57202-50-3
 CMF C26 H40 N2 O

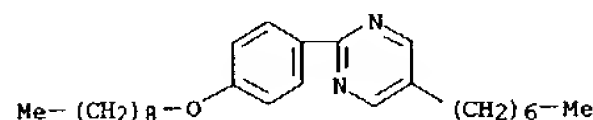
9/811,359

09/ 835,523

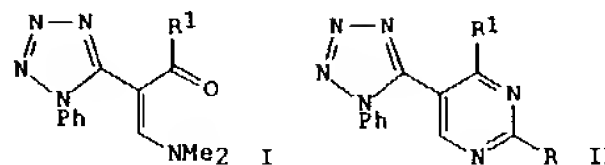
L9 ANSWER 499 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



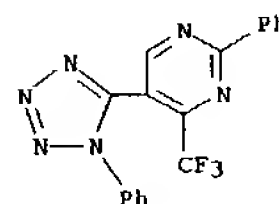
CM 9

CRN 57202-40-1
CMF C26 H40 N2 O

L9 ANSWER 500 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN ✓
 ACCESSION NUMBER: 1994:270297 CAPLUS
 DOCUMENT NUMBER: 120:270297
 TITLE: Tetrazole compounds. 8. Synthesis of tetrazolypyrimidines from tetrazolyl-substituted enamino ketones
 AUTHOR(S): Fischer, Gerhard W.
 CORPORATE SOURCE: Wissenschaftler-Integrationsprogramm, Taegerschaf KAI eV, Leipzig, 04303, Germany
 SOURCE: Journal of Heterocyclic Chemistry (1993), 30(6), 1517-19
 CODEN: JHTCAD; ISSN: 0022-152X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



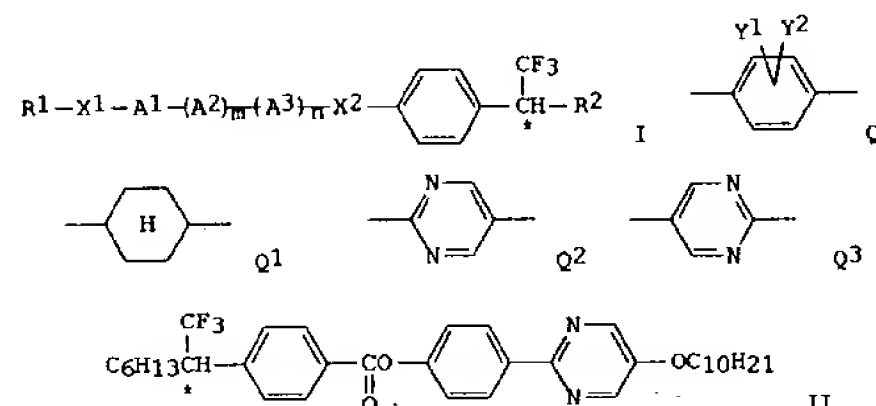
AB Tetrazolyl-substituted enamino ketones I (R¹ = Me, CF₃, Ph, Et, Pr) react with various amidines RC(NH₂):NH (R = H, Me, Ph, NH₂, NMe, OMe, SMe, SEt, SCH₂Ph) to give 5-(1-phenyl-1H-tetrazol-5-yl)pyrimidines II. In the case of the chloroacetyl enamine I (R¹ = CH₂Cl) (N,N-dimethylaminomethyl)-substituted II (R = Me, Ph, NH₂, NMe, R¹ = CH₂NMe₂) were obtained. Subsequent hydrolysis of the 4-trifluoromethyl derivs. II (R = H, Me, Ph, R¹ = CF₃) afforded the corresponding carboxylic acids II (R¹ = CO₂H).
 IT 154546-65-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and hydrolysis of)
 RN 154546-65-3 CAPLUS
 CN: Pyrimidine, 2-phenyl-5-(1-phenyl-1H-tetrazol-5-yl)-4-(trifluoromethyl)- (9CI) (CA INDEX NAME)



L9 ANSWER 501 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:269822 CAPLUS
 DOCUMENT NUMBER: 120:269822
 TITLE: Preparation of optically active (2,2,2-trifluoroethyl)benzene derivatives for liquid crystal compositions and liquid crystal devices.
 INVENTOR(S): Nohira, Hiroyuki; Imamura, Shinichi; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 55 pp.
 CODEN: JQXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05294858 | A2 | 19931109 | JP 1992-55320 | 19920313 |
| PRIORITY APPLN. INFO.: | | | JP 1992-55320 | 19920313 |
| OTHER SOURCE(S): | | MARPAT 120:269822 | | |

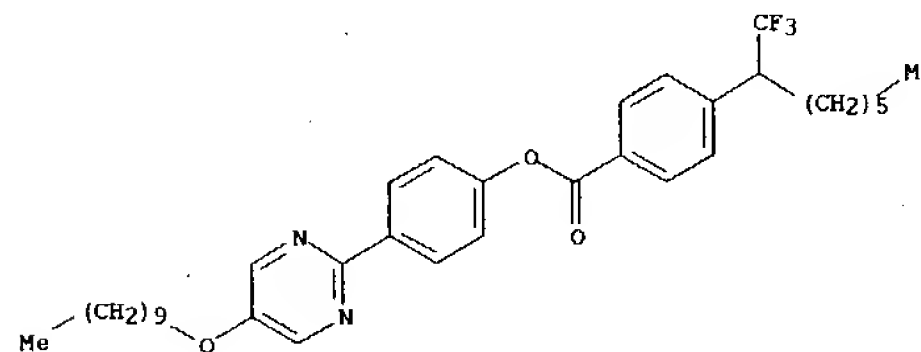
GI



AB Title compds. I {R¹, R² = alkyl; X¹ = bond, O, CO₂, O₂C, CO; X² = bond, O₂C, OCH₂; A¹, A², A³ = Q, Q₁, Q₂, Q₃; Y¹, Y² = H, halo; m, n = 0, 1} are prepared E.g., (+)-4-[1-(trifluoromethyl)heptyl]benzoic acid was reacted with SOCl₂ and the resulting acid chloride was condensed with 5-(decyloxy)-2-(4-hydroxyphenyl)pyrimidine in benzene-THF containing Et₃N at 70° for 4 h to give the title compound (+)-II. This had a transition temperature of 65° from crystalline phase to smectic A phase, 62° from smectic A phase to smectic C phase, and 26° from smectic C phase to crystalline phase; the transition temperature between the smectic A phase and the isotropic phase was 82°.
 IT 154190-26-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as liquid crystal)
 RN 154190-26-8 CAPLUS
 CN: Benzoic acid, 4-[1-(trifluoromethyl)heptyl]-, 4-[5-(decyloxy)-2-pyrimidinyl]phenyl ester, (+)- (9CI) (CA INDEX NAME)

Rotation (+).

L9 ANSWER 501 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



~~09/835,523~~

L9 ANSWER 502 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:258148 CAPLUS
DOCUMENT NUMBER: 120:258148
TITLE: Liquid crystals with end groups containing more than
one silane group, their preparation, liquid crystal
media containing them, and their use
INVENTOR(S): Haeblerle, Norman; Kreuzer, Franz Heinrich; Krueger,
Benno; Zahn, Ingo
PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie GmbH,
Germany
SOURCE: Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------|------|----------|-----------------|----------|
| EP 545409 | A1 | 19930609 | EP 1992-120645 | 19921203 |
| EP 545409 | B1 | 19960306 | | |
| R: CH, DE, FR, GB, LI, NL | | | | |
| DE 4140352 | A1 | 19930609 | DE 1991-4140352 | 19911206 |
| JP 05286982 | A2 | 19931102 | JP 1992-321758 | 19921201 |
| US 5399290 | A | 19950321 | US 1992-984599 | 19921202 |
| CA 2084562 | AA | 19930607 | CA 1992-2084562 | 19921204 |
| PRIORITY APPL. INFO.: | | | DE 1991-4140352 | 19911206 |

PRIORITY APPLN. INFO.: DE 1991-4140352 19911206
OTHER SOURCE(S): MARPAT 120:258148

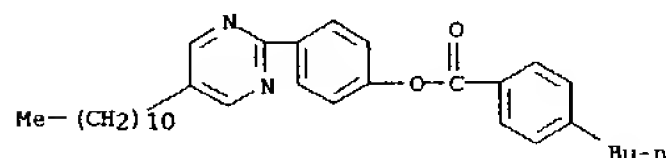
AB The title compds. are described by the general formula
 $M-(CH_2)_n-(O)_m-[-D-B]-q-Y$ (M = 2-5 Si atoms in a branched, straight-chain, or cyclic arrangement, joined to one another via bridging elements A and with the valence requirements of the Si atoms being satisfied by the presence of residues R; A = Cl-8 alkylene residues or O with the restriction that there is ≥ 1 Cl-8 alkylene residue for each M residue; R = independently selected at each occurrence and optionally substituted with F, Cl, or CN straight-chain Cl-10 alkyl or C2-10 alkenyl groups, branched chain C3-10 alkyl or alkenyl groups, or optionally with Cl-4 alkyl, Cl-4 alkoxy, F, Cl, Br, CN, trifluoromethyl, or nitro group substituted C6-12 cycloalkyl, cycloalkenyl, alkylcycloalkyl, alkylcycloalkenyl, aryl, or aralkyl groups; n = a whole number in the range 3-12; m = 0 or 1; D = independently selected isocyclic or heterocyclic saturated or unsatd. 5- or 6-membered rings; B = independently selected bonding groups from -COO-, -OOC-, -CH2-CH2-, -CH:CH-, -C.tplbond.C-, -CH-N-, -N:CH-, -O-CH2-, -CH2-O-, and -N:N-; q = 1, 2, or 3; and Y = H, a straight or branched chain Cl-10 alkyl or alkoxy group, a residue of type D for which the ring may include substituents selected from Cl-4 alkyl, Cl-4 alkoxy, F, Cl, Br, CN, trifluoromethyl, or nitro groups, or a cholesterol residue). Methods for preparing the compds. include reacting a compound described by the formula MH (in which the H is bound to a Si) with a compound described by the formula H2C(CH2)n-2-(O)m-[-D-B]-q-Y in the presence of a Pt Group metal or Pt Group metal compound or reacting a compound described by the formula MHal (Hal = Cl, Br, or I) with a compound described by the formula T-(CH2)n-(O)m-[-D-B]-q-Y (T = an alkali metal atom or MqHal). Alternately, the compds. may be prepared by reacting a compound described by the formula M-(CH2)n-(O)m-[-D-B]-r-1-D-G with a compound described by the formula Q-[-D-B]-s-Y (r,s = 0,1,2, or 3; r + s = q; and G, O = -OH, -Oli, -ONa, -OK, -O(Cl-4 alkyl), -COOH, -COBr, -COCl, -NH2,

L9 ANSWER 503 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:257553 CAPLUS
DOCUMENT NUMBER: 120:257553
TITLE: Liquid-crystal composition and device
INVENTOR(S): Yamada, Syuji; Yoshida, Akio; Shinjo, Kenji; Terada,
Masahiro; Mizuno, Hiroshi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Eur. Pat. Appl., 58 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

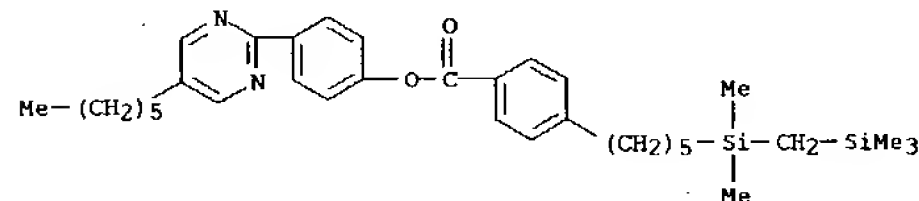
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------|------|----------|-----------------|----------|
| EP 571955 | A1 | 19931201 | EP 1993-108442 | 19930525 |
| EP 571955 | B1 | 19970820 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| US 5458804 | A | 19951017 | US 1993-65917 | 19930525 |
| AT 157175 | E | 19970915 | AT 1993-108442 | 19930525 |
| JP 06041535 | A2 | 19940215 | JP 1993-124196 | 19930526 |
| JP 2942094 | B2 | 19990830 | | |

PRIORITY APPLN. INFO.: JP 1992-133698 19920526
OTHER SOURCE(S): MARPAT 120:257553
AB A liquid-crystal composition containing a ferroelec. liquid crystal has a layer inclination angle δ in the smectic phase having a specific temperature dependence. The angle δ increases on temperature decrease down to an intermediate temperature and decreases on further temperature decrease. The angle δ keeps a pos. value at ambient temperature or starts to increase again on further temperature decrease before it reaches 0°. The liquid-crystal composition is usable for providing a liquid-crystal device or apparatus with decreased temperature dependences of driving conditions and improved

low-temperature storage properties.
IT 154407-83-7
RL: USE5 (Uses)
(liquid-crystal comps. and devices containing)
RN 154407-83-7 CAPLUS
CN Benzoic acid, 4-butyl-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester (9CI) (CA
INDEX NAME)



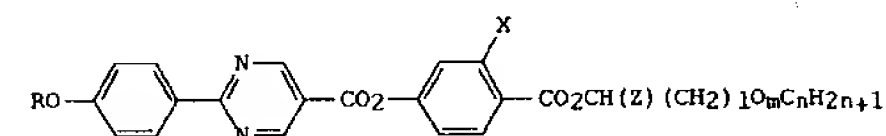
I9 ANSWER 502 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 -O-tos, or -MgHal) to form a binding group B with the loss of water, a
 Cl-4 alkanol, HHal, MgHal2, LiHal, NaHal, KHal, Li-O-tos, Na-O-tos, or
 X-O-tos. Liq. cryst. compns. contg. the compds. are claimed, as is the
 use of the compds. in optoelectronics, information storage, signal
 processing, or electrog. processes.
 IT 154455-07-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and use of, as liquid crystal media)
 RN 154455-07-9 CAPLUS
 CN Benzoic acid, 4-[5-[dimethyl[4-(trimethylsilyl)methyl]silyl]pentyl]-,
 4-(5-hexyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 504 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:257550 CAPLUS
DOCUMENT NUMBER: 120:257550
TITLE: Phenylpyrimidinecarboxylate derivative
antiferroelectric liquid crystals and display devices
containing them
INVENTOR(S): Mizukami, Masamichi; Yui, Tomoyuki; Arai, Yoshihisa;
Gocho, Yoshihiro
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Inc., Japan
SOURCE: Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| EP 568246 | A1 | 19931103 | EP 1993-303033 | 19930420 |
| EP 568246 | B1 | 19960904 | | |
| R: DE, FR, GB | | | | |
| JP 05302085 | A2 | 19931116 | JP 1992-107529 | 19920427 |
| US 5587106 | A | 19961224 | US 1995-467898 | 19950606 |
| PRIORITY APPLN. INFO.: | | | JP 1992-107529 | 19920427 |
| | | | US 1993-52604 | 19930427 |

OTHER SOURCE(S) : MARPAT 120:257550
GI



AB The antiferroelec. liquid crystals have the general formula I, where R is a straight chain alkyl group having 6-10 C atoms, X is H or F, Z is -Me, -CF₃ or -Et, and l,m,n are 0 or a certain integer depending on the specific kinds of X and Z, and are useful in liquid-crystal display devices.

IT 153203-87-3P
RL: PREP (Preparation)
(preparation of, as antiferroelec. liquid crystals for display devices)

RN 153203-87-3 CAPLUS

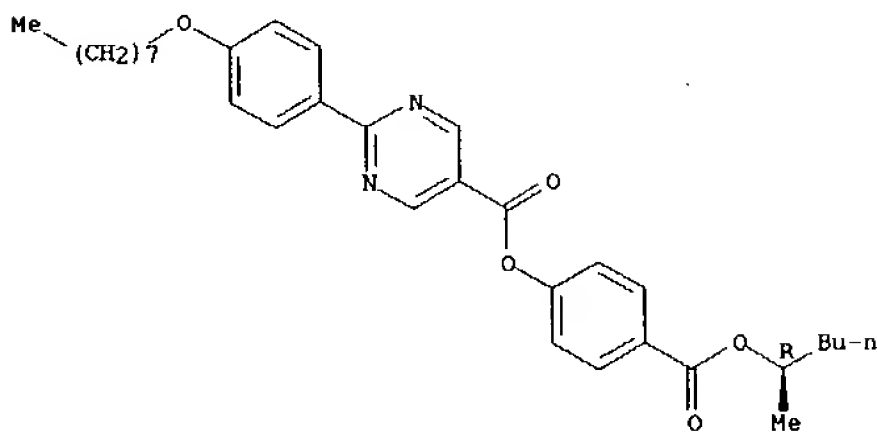
CN 5-Pyrimidinedicarboxylic acid, 2-[4-(octyloxy)phenyl]-, 4-[[[1-methylpentyl)oxy]carbonyl]phenyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

9/811, 359

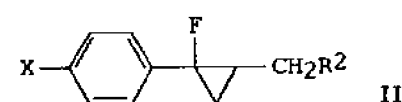
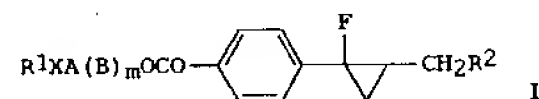
09/ 835, 523

L9 ANSWER 504 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



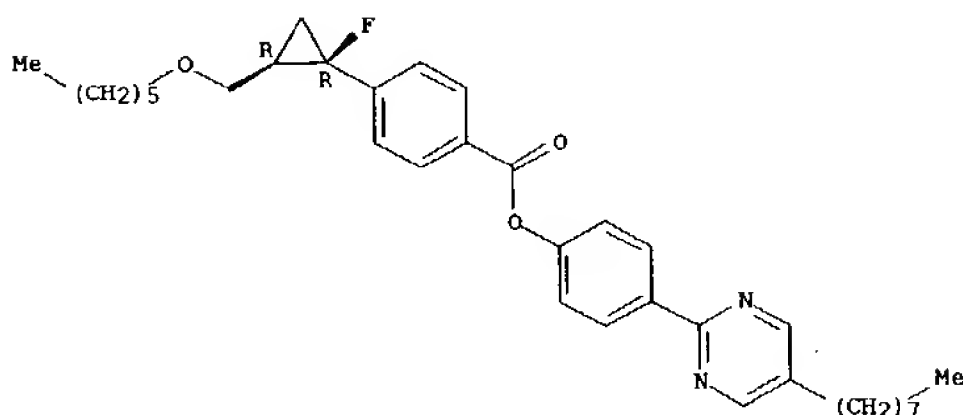
L9 ANSWER 505 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:257547 CAPLUS
 DOCUMENT NUMBER: 120:257547
 TITLE: Preparation of optically active (1-fluorocyclopropyl)benzoic acid derivatives and their intermediates, liquid-crystal compositions, and display devices using them
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Nakayama, Akiko; Kuroboshi, Manabu
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05132448 | A2 | 19930528 | JP 1991-212441 | 19910823 |
| PRIORITY APPLN. INFO.: | | | JP 1991-212441 | 19910823 |
| GI | | | | |



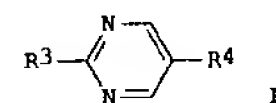
AB The title benzoic acid derivs. I (R1 = C1-18 alkyl; R2 = C1-18 alkyl, alkoxy; X = direct bond, O, CO2, OCO, CO, OCO2; A, B = 1,4-C6H4, trans-1,4-cyclohexylene, 2,5-pyridinediyl, 2,5-pyrimidinediyl, 2,5-pyrazinediyl, 3,6-pyridazinediyl, 1,3-dioxane-2,5-diyl; m = 0, 1; the 1- and 2-positions of the cyclopropane ring are independently R- or S-configuration), cyclopropylphenyl halides II (R2 = C1-18 alkyl, alkoxy; the 1- and 2-positions of the cyclopropane ring are independently R- or S-configuration), liquid-crystal compns. containing I, and liquid-crystal display devices using the liquid-crystal compns. are claimed. Addition of I as chiral dopants to base liquid-crystal compns. provides chiral smectic C compns. with wide mesomorphic range and high-speed response.
 IT 151599-74-5P
 RL: PREP (Preparation)
 (preparation of, as chiral dopant for chiral smectic C liquid-crystal compns.)
 RN 151599-74-5 CAPLUS
 CN Benzoic acid, 4-[1-fluoro-2-[(hexyloxy)methyl]cyclopropyl]-, 4-(5-octyl-2-pyrimidinyl)phenyl ester, cis-(-)- (9CI) (CA INDEX NAME)
 Rotation (-). Absolute stereochemistry unknown.

L9 ANSWER 505 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

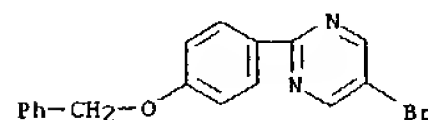


L9 ANSWER 506 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:245146 CAPLUS
 DOCUMENT NUMBER: 120:245146
 TITLE: Preparation of 2,5-disubstituted-pyrimidines as liquid crystal components
 INVENTOR(S): Poetsch, Eike; Lannert, Harald
 PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-------------------|----------|
| DE 4220065 | A1 | 19931223 | DE 1992-4220065 | 19920619 |
| PRIORITY APPLN. INFO.: | | | DE 1992-4220065 | 19920619 |
| OTHER SOURCE(S): | | | MARPAT 120:245146 | |
| GI | | | | |



AB Title compds. [I; R3 = R1(A1Z1)mA2n; R4 = A3o(Z2A4)pR2; A1-A4 = (fluoro)phenylene, (cyano)1,4-cyclohexylene; R1,R2 = (O-, CO2-, O2C-, or S-interrupted) (halo)alk(en)yl, -cyanoalk(en)yl, etc.; Z1,Z2 = bond, CO2, O2C, CH2O, OCH2, CH2CH2, C.tplbond.C; m,p = 0 or 1; n,o = 0-2; n+o ≥ 1] were prepared by condensation of R3M1 (M1 = MgX, ZnX, SnR3, etc. R = H or alkyl; X = halo) with 2,5-dibromopyrimidine (II) in the presence of a transition metal and (optionally) a base followed by condensation of the product with M2R4 (M2 = groups cited for M1) under the same conditions. Thus, 2-(4-nonyloxy-2,3-difluorophenyl)-5-(2-fluorooctyloxy)pyrimidine [K 84 SB(79)SA 1411] was prepared in 5 steps from II.
 IT 152915-90-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in preparation of liquid crystal component)
 RN 152915-90-7 CAPLUS
 CN Pyrimidine, 5-bromo-2-[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)



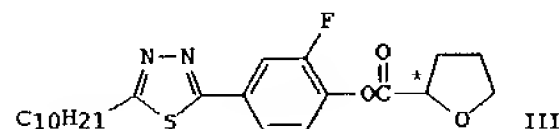
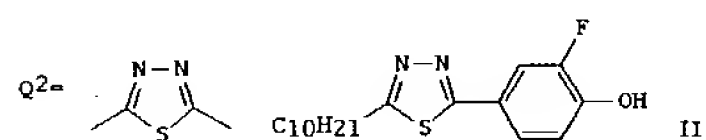
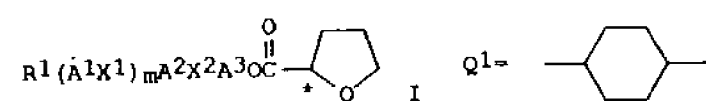
9/811,359

097-835,523

L9 ANSWER 507 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:245112 CAPLUS
 DOCUMENT NUMBER: 120:245112
 TITLE: Preparation of thiadiazole derivatives as optically active liquid crystals
 INVENTOR(S): Nakamura, Shinichi; Takiguchi, Takao; Iwaki, Takashi; Tokano, Goji; Yamada, Yoko
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 69 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05230046 | A2 | 19930907 | JP 1992-73002 | 19920226 |
| PRIORITY APPLN. INFO.: | | JP 1992-73002 | | 19920226 |
| OTHER SOURCE(S): | | MARPAT 120:245112 | | |

GI



AB The title compds. I (R1 = alkyl (details given); A1-A3 = Q1, Q2, etc.; a proviso related to A1-A3 is given; X1, X2 = single bond, CO2, CH2O, etc.; m = 0, 1; star indicates optical activity) were prepared. A mixture of phenol derivative II, DCC, (R)-(+)-tetrahydrofuran-2-carboxylic acid, and 4-pyrrolidinopyridine in CH2Cl2 was stirred at room temperature for 6 h to give title compound III. A liquid crystal composition containing III has a phase transition temperature of 52° between the SC and SA phase.

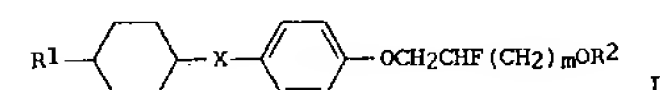
IT 154162-38-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (liquid crystal composition containing)

RN 154162-38-6 CAPLUS
 CN Cyclohexanecarboxylic acid, 4-octyl-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)

L9 ANSWER 508 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:232313 CAPLUS
 DOCUMENT NUMBER: 120:232313
 TITLE: Preparation of optically-active 2-fluoroalkyl ethers and liquid-crystal compositions containing them
 INVENTOR(S): Ishizuka, Takahiro; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05262743 | A2 | 19931012 | JP 1992-62235 | 19920318 |
| PRIORITY APPLN. INFO.: | | JP 1992-62235 | | 19920318 |
| OTHER SOURCE(S): | | MARPAT 120:232313 | | |

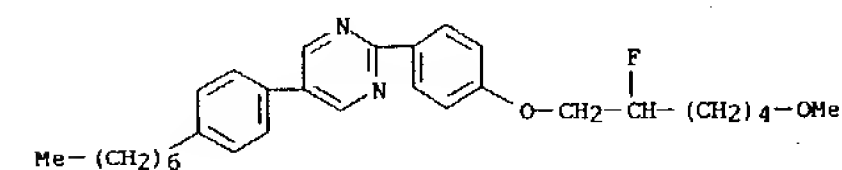
GI



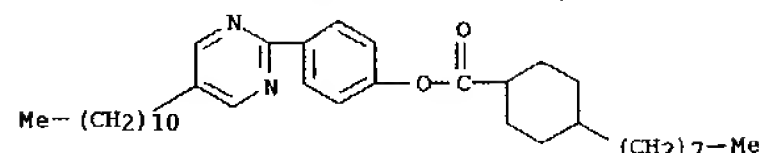
AB The title compds. I [R1 = (C1-18 alkoxy) alkyl; R2 = C1-4 (halo)alkyl; X = pyrimidinediyl; m = 4-9] and liquid-crystal compns. containing optically-active I are claimed. Addition of I to smectic C liquid-crystal compns. as base materials for chiral smectic C compns. is useful to attain high-speed response in liquid-crystal display devices.

IT 154021-96-2P
 RL: PREP (Preparation)
 (preparation of, as liquid crystal for chiral smectic C displays)

RN 154021-96-2 CAPLUS
 CN Pyrimidine, 2-[4-[(2-fluoro-6-methoxyhexyl)oxy]phenyl]-5-(4-heptylphenyl)- (9CI) (CA INDEX NAME)



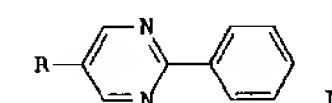
L9 ANSWER 507 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 509 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:232311 CAPLUS
 DOCUMENT NUMBER: 120:232311
 TITLE: Preparation of 5-alkyl-2-phenylpyrimidines and liquid-crystal compositions containing them
 INVENTOR(S): Maito, Tomijiro; Sato, Yumiko
 PATENT ASSIGNEE(S): Citizen Watch Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05255278 | A2 | 19931005 | JP 1992-85040 | 19920309 |
| PRIORITY APPLN. INFO.: | | JP 1992-85040 | | 19920309 |
| OTHER SOURCE(S): | | MARPAT 120:232311 | | |

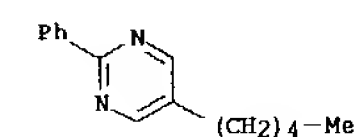
GI



AB The title compds. I (R = C1-10 alkyl) and liquid-crystal compns. containing ≥ 1 I are claimed. I are useful as components for twisted nematic liquid-crystal displays to decrease the viscosity, lower the threshold voltage, and increase the dielec. anisotropy.

IT 154021-93-9P
 RL: PREP (Preparation)
 (preparation of, as additive for twisted nematic liquid-crystal displays)

RN 154021-93-9 CAPLUS
 CN Pyrimidine, 5-pentyl-2-phenyl- (9CI) (CA INDEX NAME)



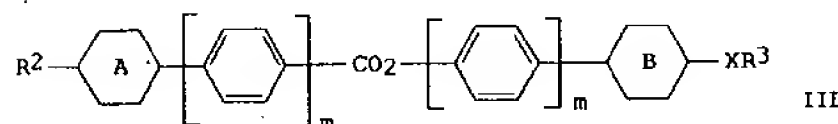
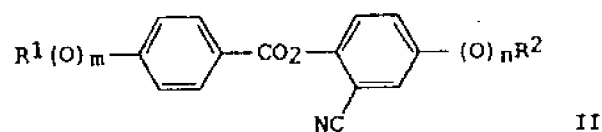
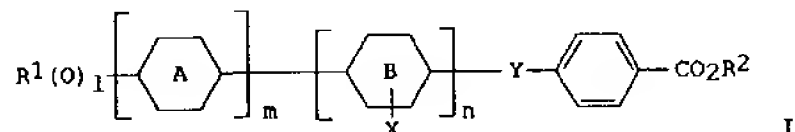
9/811,359

09/835,523

L9 ANSWER 510 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:232277 CAPLUS
 DOCUMENT NUMBER: 120:232277
 TITLE: Liquid crystal display apparatus
 INVENTOR(S): Shiomi, Makoto; Koden, Mitsuhiro; Shinomya, Tokihiko;
 Kuratate, Tomoaki; Taniguchi, Tsunako
 PATENT ASSIGNEE(S): Sharp Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

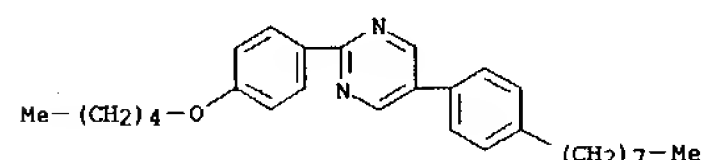
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05165031 | A2 | 19930629 | JP 1991-327820 | 19911211 |
| JP 2763220 | B2 | 19980611 | | |

PRIORITY APPLN. INFO.: JP 1991-327820 19911211
 OTHER SOURCE(S): MARPAT 120:232277
 GI

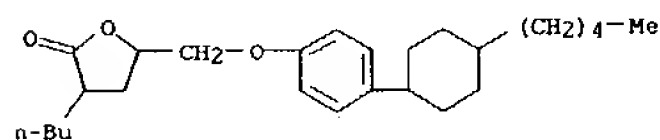


AB A ferroelec. liquid crystal apparatus comprises (1) a liquid crystal panel having
 a chiral smectic C liquid crystal placed between a pair of uniaxial orientation-treated substrates fabricated with selectively formed surface electrodes, an insulation layer, and an orientation film, (2) a means of driving for switching an optical axis of the liquid crystal by selectively impressing voltage to the electrodes formed on the substrates, and (3) a means for optically recognizing the switching of the optical axis. The chiral smectic C phase forms a chevron structure which has bends with specified angles, and the orientation domain derived from the relationship between the chevron structure and the direction of uniaxial orientation is inside the domain surrounded by lighting defects generated along the direction of the uniaxial orientation treatment and hair pin defects generated behind the lighting defects. The orientation film is an organic orientation film which possesses a uniform orientation state, a

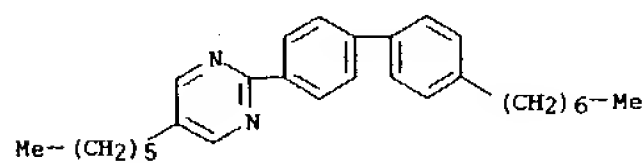
L9 ANSWER 510 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



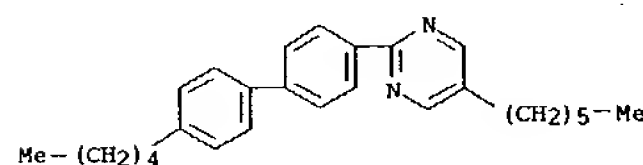
CM 3
 CRN 122459-42-1
 CMF C26 H40 O3



CM 4
 CRN 92519-52-3
 CMF C29 H38 N2



CM 5
 CRN 92178-46-6
 CMF C27 H34 N2



CM 6
 CRN 57202-56-9
 CMF C25 H38 N2 O

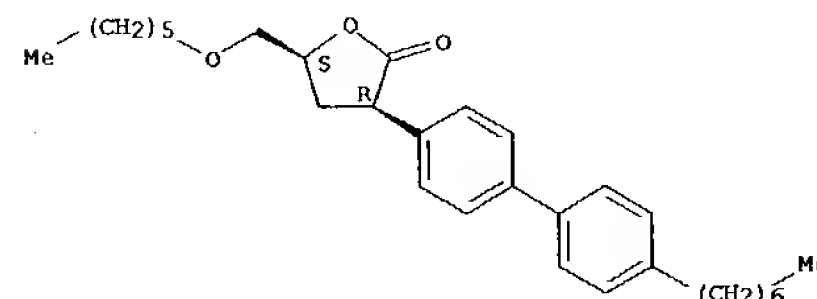
L9 ANSWER 510 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 8-20° pretilt angle against the substrate of the smectic layer, and a switching process accompanied by inversion of liq. crystal mols. near the substrate. The ferroelec. liq. crystal layer contains an alkyl benzoate (I: R1, R2 = linear or branched C1-15 alkyl; ring A and B = 1,4-phenylene, 1,4-cyclohexylene, naphthalene-1,6-diyl; X = H, F; Y = CO2, single bond; l, m, n = 0,1), a 2-cyanophenyl benzoate (II: R1, R2, m, n = same as above), and/or an ester (III: R2, R3 = linear or branched C1-15 alkyl or alkoxy; X = O, CO, single bond; ring A, B, m, n = 0,1). The app. uses a ferroelec. liq. crystal compn. with high contrast and fast response speed and provides matrix-type display with large capacity and high contrast.

IT 153925-71-4
 RL: USES (Uses)
 (ferroelec. liquid crystal composition, for matrix-type display)

RN 153925-71-4 CAPLUS
 CN D-threo-Pentonic acid, 2-butyl-2,3-dideoxy-5-O-[4-(4-pentylcyclohexyl)phenyl]-, γ-lactone, trans-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2,3-dideoxy-2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-O-hexyl-D-threo-pentonic acid γ-lactone, 2-(4'-heptyl[1,1'-biphenyl]-4-yl)-5-hexylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-hexyl-2-(4'-pentyl[1,1'-biphenyl]-4-yl)pyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-(4-octylphenyl)-2-[4-(pentyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

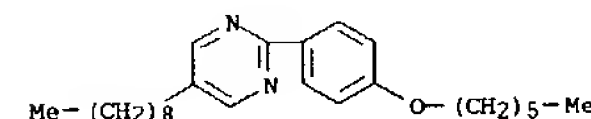
CM 1
 CRN 139758-47-7
 CMF C30 H42 O3

Absolute stereochemistry.

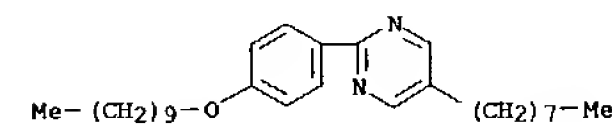


CM 2
 CRN 135331-20-3
 CMF C29 H38 N2 O

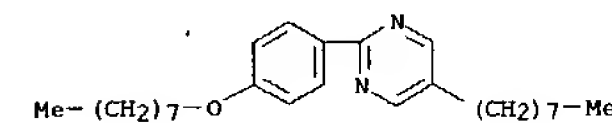
L9 ANSWER 510 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



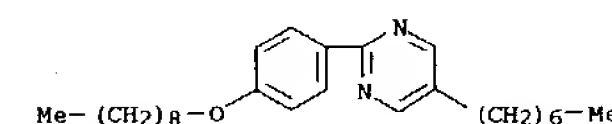
CM 7
 CRN 57202-52-5
 CMF C28 H44 N2 O



CM 8
 CRN 57202-50-3
 CMF C26 H40 N2 O



CM 9
 CRN 57202-40-1
 CMF C26 H40 N2 O



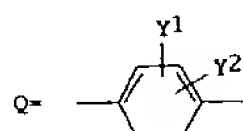
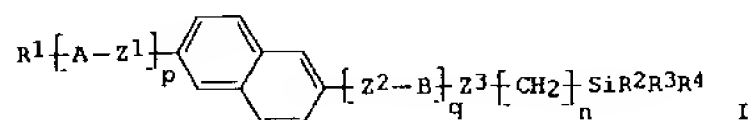
9/811,359

09/835,523

L9 ANSWER 511 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:232264 CAPLUS
 DOCUMENT NUMBER: 120:232264
 TITLE: Trialkylsilylated naphthalene derivative, liquid crystal composition containing them, and liquid crystal device and display apparatus using the composition
 INVENTOR(S): Iwaki, Takashi; Takiguchi, Takao; Tokano, Goji; Yamada, Yoko; Nakamura, Shinichi
 PATENT ASSIGNEE(S): Canon Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 100 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

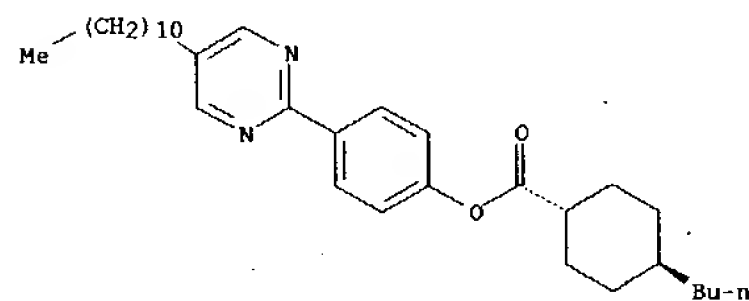
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05105686 | A2 | 19930427 | JP 1991-293786 | 19911015 |
| PRIORITY APPLN. INFO.: | | | JP 1991-293786 | 19911015 |
| OTHER SOURCE(S): | | MARPAT 120:232264 | | |

GI



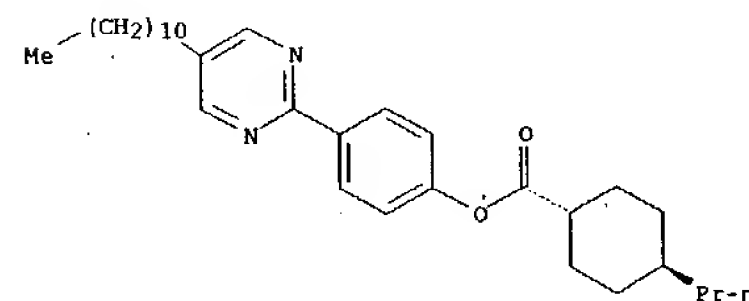
AB The title compds. [I; R1 = C2-16 linear or branched (fluoro)alkyl optionally having 1 or 2 nonadjacent CH2 groups of the alkyl substituted with O, S, CO, CO2, or O2C; A = Al, Al-A2; B = B1, B1-B2; Al, A2, B = Q (wherein Y1, Y2 = H, F, Cl, Br, Me, cyano, CF3), 1,4-hexylene, 2,5-thiophenediyl, 2,5- or 5,2-thiazolediyl, 1,3,4-thiadiazole-2,5-diyl, 2,5- or 5,2-pyridinediyl, 2,5- or 5,2-pyrimidinediyl, 3,6-pyrazinediyl, 2,5-pyridazinediyl; Z1, Z2 = CO2, O2C, CH2O, OCH2; Z3 = O, CO, CO2, O2C; R2-R4 = C1-16 linear or branched alkyl optionally having the CH2 group nonadjacent to the heteroatom of the alkyl group substituted with O, CO2, or O2C; p, q = 0, 1; p + q ≠ 0; n = 1-12; provided that at least one of Al, A2, B1, and B2 = heterocyclic ring; when at least one of Al and A2 = 2,5-pyrimidinediyl; Z1 = single bond; when at least one of B1 and B2 = 2,5-pyrimidinediyl, Z2 = single bond], e.g. compound (II), are prepared A

L9 ANSWER 511 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



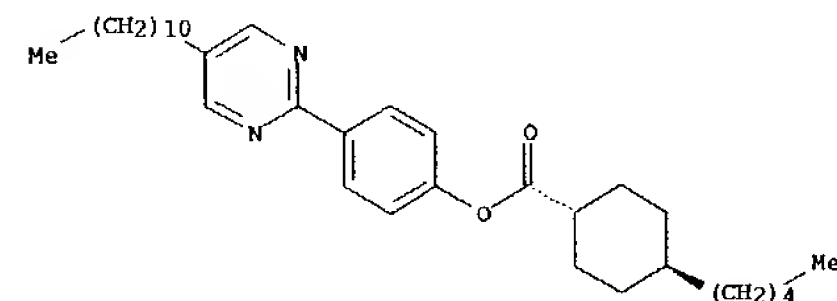
CM 3
 CRN 121639-88-1
 CMF C31 H46 N2 O2

Relative stereochemistry.



CM 4
 CRN 121083-94-1
 CMF C33 H50 N2 O2

Relative stereochemistry.

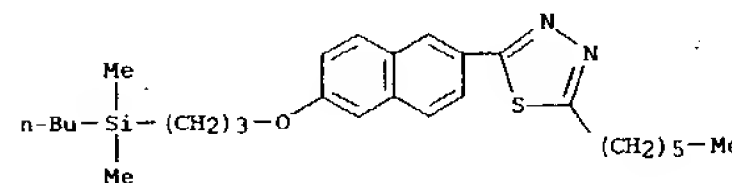


CM 5
 CRN 116529-05-6

L9 ANSWER 511 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 liq. crystal compn., particularly having a chiral smectic phase, contains at least one I. A liq. crystal device comprises the said liq. crystal compn. placed between a pair of electrode substrates. A display app. possesses the said liq. crystal device and is operated by switching liq. crystal mols. using the ferroelectricity of the said liq. crystal compn. I effectively provides high speed response and reduces the temp. dependence of response speed. Ferroelec. chiral smectic liq. crystal compns. contg. I provide liq. crystal devices with good switching property, high speed response, improved working characteristic at low temp., and reduced temp. dependence of response speed.

IT 153846-63-0
 RL: USES (Uses)
 (chiral smectic ferroelec. liquid crystal composition, for display)
 RN 153846-63-0 CAPLUS
 CN Cyclohexanecarboxylic acid, 4-butyl-, 4-(5-undecyl-2-pyrimidinyl)phenyl ester, trans-, mixt. with 2-[6-[3-(butyldimethylsilyl)propoxy]-2-naphthalenyl]-5-hexyl-1,3,4-thiadiazole, 5-decyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 5-decyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-dodecyl-2-[4-[(2-fluorooctyl)oxy]phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine, trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate and trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-propylcyclohexanecarboxylate (9CI) (CA INDEX NAME)

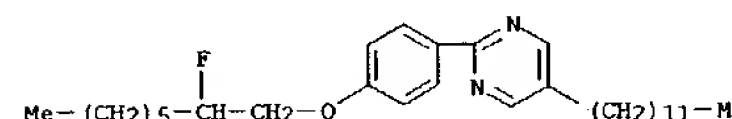
CM 1
 CRN 153846-39-0
 CMF C27 H40 N2 O S Si



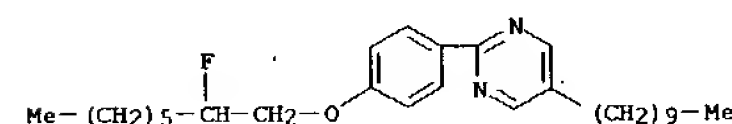
CM 2
 CRN 121639-89-2
 CMF C32 H48 N2 O2

Relative stereochemistry.

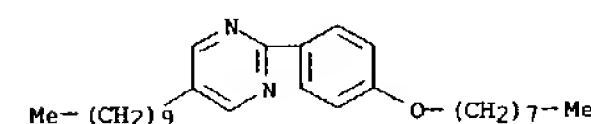
L9 ANSWER 511 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C30 H47 F N2 O



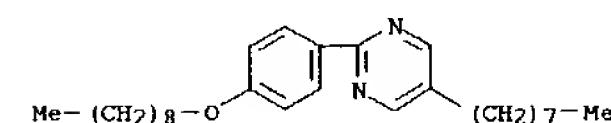
CM 6
 CRN 113701-90-9
 CMF C28 H43 F N2 O



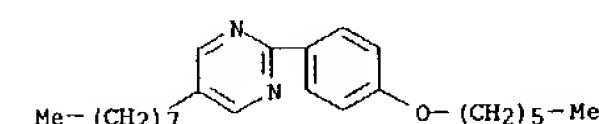
CM 7
 CRN 57202-62-7
 CMF C28 H44 N2 O



CM 8
 CRN 57202-51-4
 CMF C27 H42 N2 O



CM 9
 CRN 57202-48-9
 CMF C24 H36 N2 O



9/811,359

09/ 835,523

L9 ANSWER 511 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 512 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:232245 CAPLUS
 DOCUMENT NUMBER: 120:232245
 TITLE: Preparation of optically active γ -butyrolactone derivatives as liquid crystals or chiral dopants for liquid crystals and liquid crystal compositions containing them
 INVENTOR(S): Ikemoto, Tetsuya; Kageyama, Yoshitaka; Terada, Fumiko; Nakaoka, Yuriko; Mori, Kenji
 PATENT ASSIGNEE(S): Mitsubishi Rayon Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------|------|----------|-----------------|----------|
| JP 05097836 | A2 | 19930420 | JP 1991-326186 | 19911210 |
| PRIORITY APPLN. INFO.: GI | | | JP 1991-202045 | 19910813 |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I: R1 = linear or branched C1-18 alkyl, alkenyl, or C1-12 alkoxy-C1-16 alkyl, which may have an optically active or racemic group and may be substituted with ≥ 1 halogen; R2 = linear or branched alkyl C1-18 alkyl; X = O, CO2, O2C; Y = CO2, CH2O; A = Q1 - Q4, etc.; wherein ring Q = 2,6-naphthylene, 1,4-cyclohexylene, Q5; Z, G = H, F, Cl, cyano, MeO, CF3; V = single bond, CH2O, OCH2, CO2, O2C; ring R = Q5 - Q9, etc.; C* denotes an asym. C atom] are prepared I show chemical stability, e.g. against hydrolysis, and photostability and are not required to resolve diastereomers. Addition of I to liquid crystal compns. induces large spontaneous polarization comparable to that of γ -butyrolactone derivs. with 2 asym. C atoms, increases spiral pitches of the cholesteric phase, improves electrooptical response speed, and provides ferroelec. liquid crystal compns. without coloration and reducing chemical and light stability. A total of 5 I and 5 ferroelec. chiral smectic C liquid crystal compns. containing I were prepared

IT 149961-14-8
 RL: USES (Uses)
 (ferroelec. chiral smectic C liquid crystal composition, for display devices)

RN 149961-14-8 CAPLUS

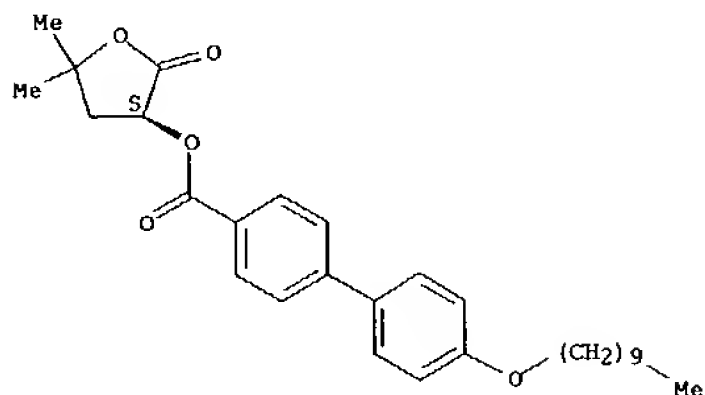
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(decyloxy)-, tetrahydro-5,5-dimethyl-2-oxo-3-furanyl ester, (S)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 141778-60-1

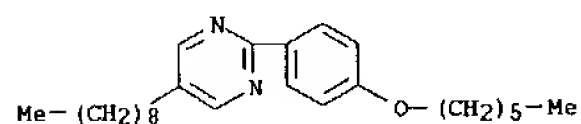
L9 ANSWER 512 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CMF C29 H38 O5

Absolute stereochemistry.



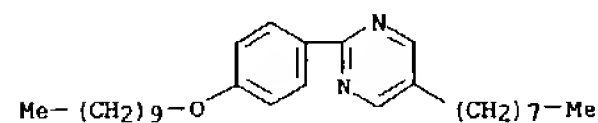
CM 2

CRN 57202-56-9
 CMF C25 H38 N2 O



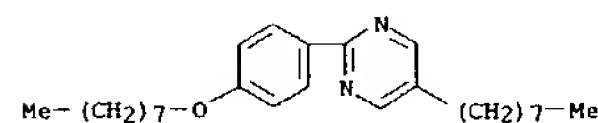
CM 3

CRN 57202-52-5
 CMF C28 H44 N2 O



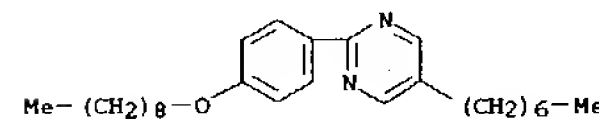
CM 4

CRN 57202-50-3
 CMF C26 H40 N2 O



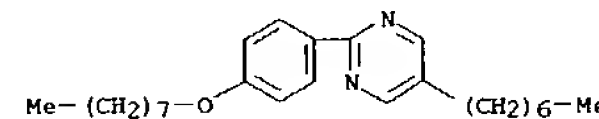
L9 ANSWER 512 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM 5

CRN 57202-40-1
 CMF C26 H40 N2 O



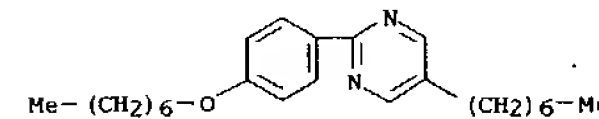
CM 6

CRN 57202-39-8
 CMF C25 H38 N2 O



CM 7

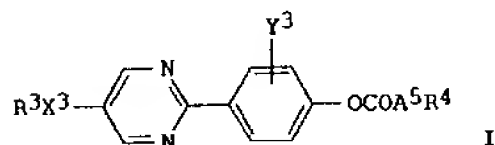
CRN 57202-38-7
 CMF C24 H36 N2 O



~~09/~~ 835,523

L9 ANSWER 513 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:232227 CAPLUS
DOCUMENT NUMBER: 120:232227
TITLE: Ferroelectric liquid crystal composition and display
element and device using same
INVENTOR(S): Mori, Yoshimasa; Terada, Masahiro; Shinjo, Kenji;
Yamashita, Masataka; Katagiri, Kazuharu
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 95 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--------|------------|-----------------|----------|
| JP 05039482 | A2 | 19930219 | JP 1991-216581 | 19910802 |
| PRIORITY APPLN. INFO.: | | | JP 1991-216581 | 19910802 |
| OTHER SOURCE(S): | MARPAT | 120:232227 | | |
| GI | | | | |

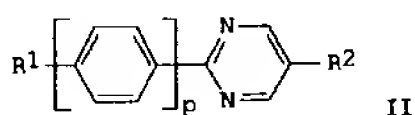
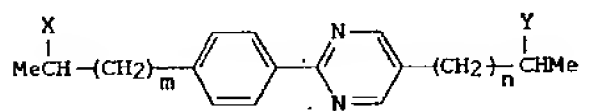


AB The title composition contains ≥ 1 liquid crystal compd(s).
R1-X1-A1-B-A2-X2-R2 [R1-2 = C1-18 linear or branched alkyl in which
 ≥ 1 or ≥ 2 CH₂ groups may be displaced by O, CO, CO₂, OCO,
OCO₂, CH(halo) under the condition that hetero atoms are not adjacent to
each other; X1-2 = single bond, O, CO₂, OCO, CO; B = 2,
5-benzothiazolediyl, 2, 6-benzothiazolediyl, 2, 5-benzoxazolediyl; A1 =
Y1- and Y2-substituted 1, 4-benzenediyl, 1, 4-cyclohexanediyl; A2 = single
bond, A3- , -A3-A4-; A3-4 = A1, 2, 6-naphthalenediyl, 2, 5-pyridinediyl, 3,
6-pyridinediyl, 2, 5-pyrimidinediyl, 3, 6-pyrimidinediyl, 2,
5-thiophenediyl; Y1-2 = H, F, Cl, Br, Me, CN, CF₃] and ≥ 1 liquid
crystal compd(s). I (R3-4 = R1-2; X3 = single bond, O, CO₂, OCO; Y3 =
halo; A5 = single bond, 1, 4-cyclohexanediyl). The composition is easily
oriented by a simple rubbing treatment and shows uniform monodomain
orientation capability without defect; a liquid crystal element using the
composition has large driving voltage margin; and all pixels of the element are
capable of being well matrix driven with a wide driving temperature margin even
if there is some degree of temperature scattering on the display area.

| | | | |
|----|------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|
| IT | 154042-14-5 | RL: USES (Uses) | (liquid crystal compound, for ferroelec. chiral smectic liquid crystal composition) |
| RN | 154042-14-5 | CAPLUS | |
| CN | Benzothiazole, 2-[4-(5-heptyl-2-pyrimidinyl)phenyl]-6-octyl- (9CI) (CA INDEX NAME) | | |

L9 ANSWER 514 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:232222 CAPLUS
DOCUMENT NUMBER: 120:232222
TITLE: Ferroelectric liquid crystal composition suitable for
liquid-crystal display having fast response time
INVENTOR(S): Ichihashi, Mitsuyoshi; Onaka, Takami
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|-------------------|----------|-----------------|----------|
| JP 04372690 | A2 | 19921225 | JP 1991-177416 | 19910620 |
| PRIORITY APPLN. INFO.: | | | JP 1991-177416 | 19910620 |
| OTHER SOURCE(S): | MARPAT 120:232222 | | | |
| GI | | | | |



AB The title liquid crystal composition comprising nonchiral compds. and chiral compds. contains a nonchiral compound I [X, Y = H, Me; at least one of X and Y is Me; m, n = 4-20] and/or a nonchiral compound II [R_{1,2} = C₄₋₂₀ alkyl; the sum of C in R_{1,2} is more than 10; p = 1, 2], in which the sum of I and II in the entire nonchiral composition is ≥70%.

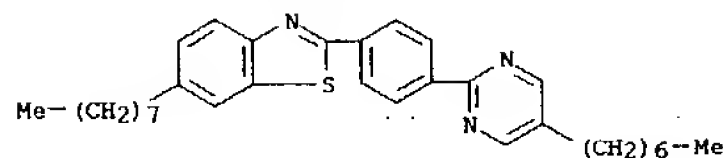
IT 151035-51-7
RL: USES (Uses)
(ferroelec. liquid-crystal composition from, suitable for liquid-crystal display)

RN 151035-51-7 CAPLUS
 CN Pyrimidine, 2-[4-[(2-fluorooctyl)oxy]phenyl]-5-octyl-, mixt. with
 2-[4'-heptyl[1,1'-biphenyl]-4-yl]-5-(2-methylbutyl)pyrimidine,
 5-hexyl-2-(4'-penty[1,1'-biphenyl]-4-yl)pyrimidine and
 5-(8-methylnonyl)-2-(4-octylphenyl)pyrimidine (9CI) (CA INDEX NAME)

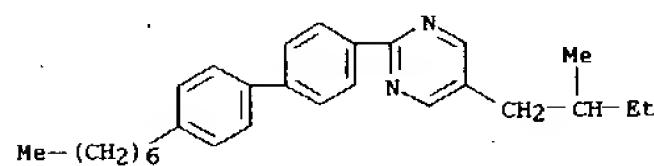
CM 1

CRN 147845-92-9
CMF C28 H36 N2

L9 ANSWER 513 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

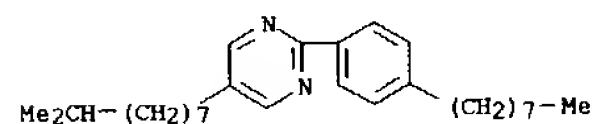


L9 ANSWER 514 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



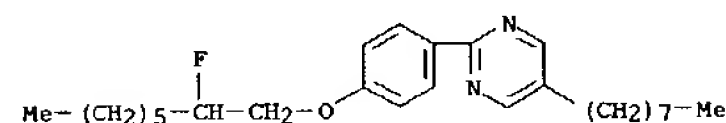
CM 2

CRN 144314-77-2
CMF C28 H44 N2



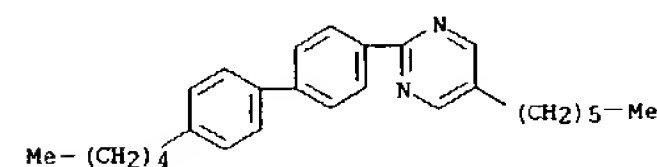
CM 3

CRN 116528-86-0
CMF C26 H39 F N2 O



CM 4

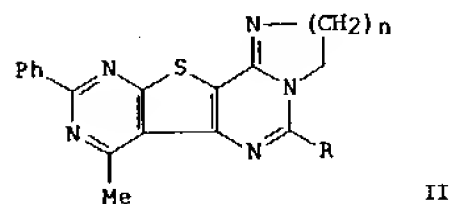
CRN 92178-46-6
CMF C27 H34 N2



09/ 835,523

9/811, 359

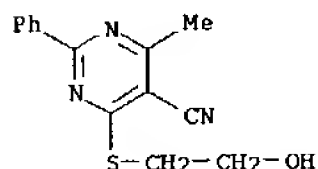
L9 ANSWER 515 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:217515 CAPLUS
DOCUMENT NUMBER: 120:217515
TITLE: Synthesis of 2,3-dihydroimidazo[1,2-c]pyrimido[5',4':4,5]thieno[2,3-e]pyrimidines and 2H-3,4-dihydropyrimido[1,2-c]pyrimido[5',4':4,5]thieno[2,3-e]pyrimidines
AUTHOR(S): Wagner, G.; Vieweg, H.; Leistner, S.
CORPORATE SOURCE: Fachbereich Biowiss., Univ. Leipzig, Leipzig, Germany
SOURCE: Pharmazie (1993), 48(8), 588-91
DOCUMENT TYPE: CODEN: PHARAT; ISSN: 0031-7144
LANGUAGE: Journal
German



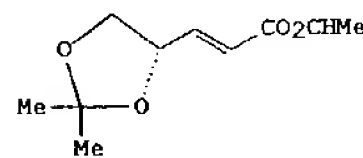
AB The reaction of dibenzoyldiacetonitrile with cyanothioacetamide gave 5-cyano-6-methyl-2-phenylpyrimidine-4(3H)-thione (I) in good yield. The title compds. were synthesized by two different routes. Thus, 3-aminothieno[2,3-d]pyrimidine-2-carboxylates, obtained from I were acetylated and treated with aminoethanol to give the hydroxyethylated pyrimidothienopyrimidone. This compound after chlorination and reaction with 1,2-diaminoethane or 1,3-diaminopropane yielded the desired tetracyclic substances II (R = Me, n = 1, 2). On the other hand, 3-aminothieno[2,3-d]pyrimidine-2-carboxamide obtained from I, was similarly treated to give II (R = H, n = 1, 2).

IT 153776-04-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(intermediate in preparation of imidazo- and pyrimidopyrimidothienopyrimidin es)

RN 153776-04-6 CAPLUS
CN 5-Pyrimidinecarbonitrile, 4-[(2-hydroxyethyl)thio]-6-methyl-2-phenyl- (9CI) (CA INDEX NAME)



L9 ANSWER 516 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:217360 CAPLUS
DOCUMENT NUMBER: 120:217360
TITLE: Double diastereoselection in asymmetric dihydroxylation
AUTHOR(S): Morikawa, Kouhei; Sharpless, K. Barry
CORPORATE SOURCE: Dep. Chem., Scripps Res. Inst., La Jolla, CA, 92037, USA
SOURCE: Tetrahedron Letters (1993), 34(35), 5575-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 120:217360
GI



AB New phthalazine and pyrimidine ligands give improved double diastereoselection in asym. dihydroxylation of chiral olefin I.

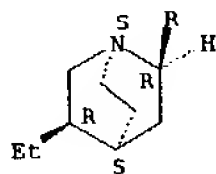
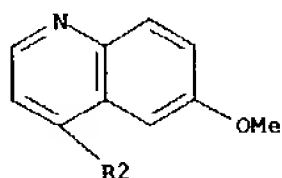
IT 153777-77-6
RL: CAT (Catalyst use); USES (Uses)
(catalysts containing, for double diastereoselection in asym. dihydroxylation)

RN 153777-77-6 CAPLUS
CN Cinchonon, 9,9''-[[5-phenyl-2-(3,4,5-trimethoxyphenyl)-4,6-pyrimidinediyl]bis(oxy)]bis[10,11-dihydro-6'-methoxy-, (9S)-(9''S)- (9CI) (CA INDEX NAME)

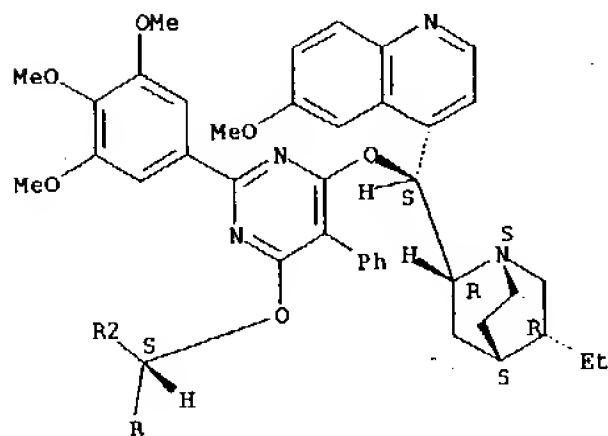
Absolute stereochemistry.

L9 ANSWER 516 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-A



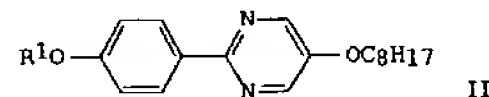
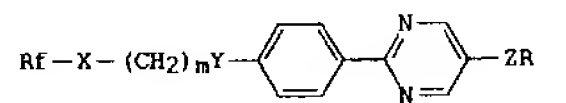
PAGE 2-A



L9 ANSWER 517 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:204847 CAPLUS
DOCUMENT NUMBER: 120:204847
TITLE: Preparation of nonoptically active fluoroalkyl-containing phenylpyrimidine derivatives and liquid crystal composition and device using them
INVENTOR(S): Ido, Motohisa; Yuasa, Koyo
PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JXXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05294943 | A2 | 19931109 | JP 1992-122905 | 19920417 |
| PRIORITY APPLN. INFO.: | | | JP 1992-122905 | 19920417 |

GI



AB The title compds. (I; R = C4-20 alkyl; Rf = branched fluoroalkyl; X, Y, Z = single bond, CO, CO2, O2C, O; m = 4-20) are prepared. A liquid crystal composition contains I and at least one of optically active compds. (preferably cholesteric, ferroelec., or antiferroelec. compound), smectic liquid crystal compds., and bicolor dyes. A liquid crystal device comprises the above composition placed between electrode-attached substrates. I are used as additives for a ferroelec. liquid crystal composition to improve elec. field response with small decrease in tilt angles and provide a liquid crystal device with high contrast. Thus, treatment of a phenylpyrimidine derivative [II; R1 = Br-Ph3P+(CH2)12] (preparation given) with BuLi in hexane -THF at -78° followed by Wittig reaction with CF3COMe in the presence of Me3COK at -78° gave II [R1 = CF3CMe:CH (CH2)11] which showed SA to SC phase transition at 39°.

IT 153580-94-0
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal composition, for display with high contrast and little decrease in tilt angle)

RN 153580-94-0 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-[[4-[[10-[(1-ethenyl-3-butenyl)oxy]decyl]oxy]benzoyl]oxy]-, 1-methylheptyl ester, polymer with 1,1,3,3,5,5,7,7-octamethyltetrasiloxane, mixt. with 5-(octyloxy)-2-[4-[[14,14,14-trifluoro-13-methyl-12-tetradecenyl]oxy]phenyl]pyrimidine (9CI) (CA INDEX NAME)

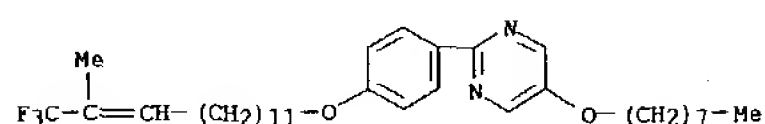
CM 1

CRN 153580-82-6
CMF C33 H49 F3 N2 O2

9/811, 359

09/ 835, 523

L9 ANSWER 517 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



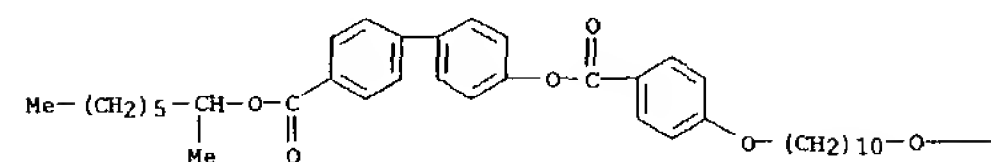
CM 2

CRN 153580-93-9
 CMF (C44 H58 O6 . C8 H26 O3 Si4)x
 CCI PMS

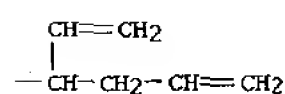
CM 3

CRN 142680-03-3
 CMF C44 H58 O6

PAGE 1-A

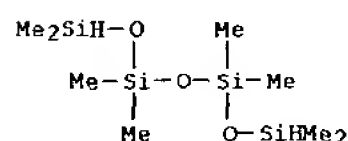


PAGE 1-B

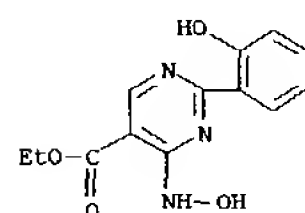


CM 4

CRN 1000-05-1
 CMF C8 H26 O3 Si4

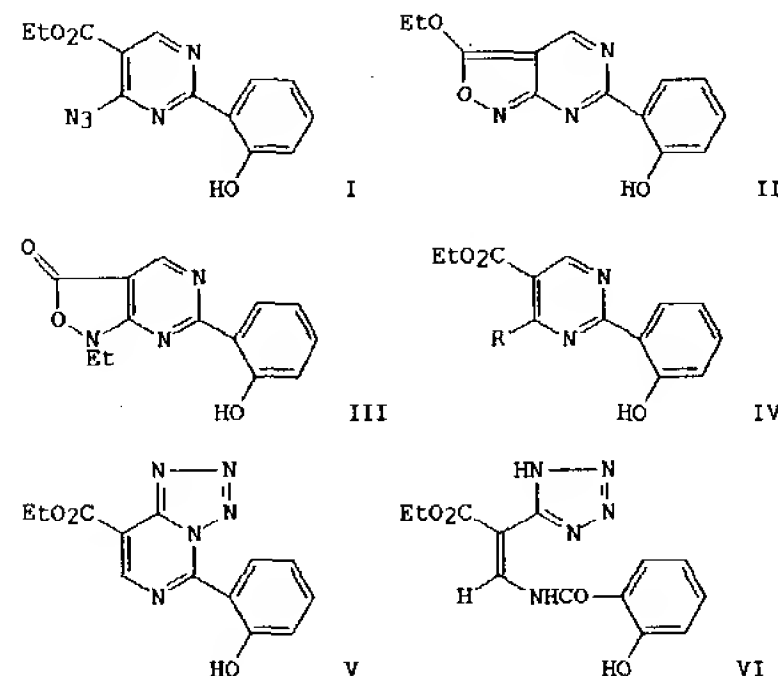


L9 ANSWER 518 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 518 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

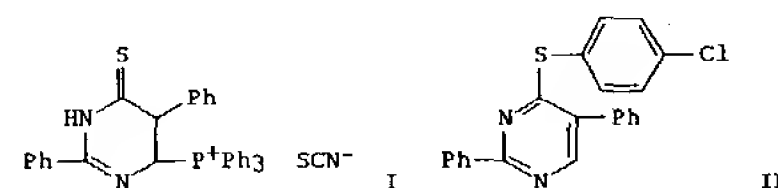
1994:191655 CAPLUS
 120:191655
 TITLE: Intramolecular cyclization in 4-azido-5-ethoxycarbonyl-2-(2'-hydroxyphenyl)pyrimidine: synthesis and properties of 3-ethoxy-6-(2'-hydroxyphenyl)isoxazolo[3,4-c]pyrimidine
 AUTHOR(S): Vetchinov, Valerii P.; Nikolaenkova, Elena B.; Mamatyuk, Victor I.; Krivopalov, Victor P.
 CORPORATE SOURCE: Novosib. Inst. Org. Chem., Novosibirsk, 630090, Russia
 SOURCE: Mendelev Communications (1993), (4), 151-3
 CODEN: MENCEX; ISSN: 0959-9436
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 120:191655
 GI



AB The title azide (I) in the solid state or in DMSO solution cyclizes thermally to the isoxazolo[3,4-d]pyrimidine II, which can either further rearrange to isoxazalone III or be transformed to hydroxylamine IV (R = HONH) or sulfoximine IV (R = O:SM2:N) on interaction with water or upon dilution of its DMSO solution by water, resp.; the tetrazolo tautomer V yields the acrylate VI.
 150537-07-8P
 IT RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 150537-07-8 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-(hydroxyamino)-2-(2-hydroxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)

L9 ANSWER 519 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

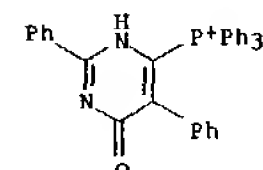
1994:191654 CAPLUS
 120:191654
 TITLE: Reaction of (1-chloro-1,4-diphenyl-2-aza-1,3-butadien-3-yl)triphenylphosphonium chloride with potassium thiocyanate
 AUTHOR(S): Brovarets, V. S.; Vydzhak, R. N.; Zyuz, K. V.; Drach, B. S.
 CORPORATE SOURCE: Inst. Bioorg. Khim. Neftekhim., Kiev, Ukraine
 SOURCE: Zhurnal Obshchei Khimii (1993), 63(6), 1266-9
 CODEN: ZOKHA4; ISSN: 0044-460X
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI



AB Heating the available P-containing enimidoyl chloride $PhCCl:NC(=CHPh)P^+Ph_3Cl^-$ with KSCN takes place via cyclization, which leads to phosphonium thiocyanate I together with other products. The structure of I was confirmed by successive transformations to a simple derivative of 2,5-diphenyl-4-pyrimidinethiol, e.g. II.
 153391-56-1P
 IT RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and chlorination by phosphoryl chloride)
 RN 153391-56-1 CAPLUS
 CN Phosphonium, (1,6-dihydro-6-oxo-2,5-diphenyl-4-pyrimidinyl)triphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 153391-55-0
 CMF C34 H26 N2 O P



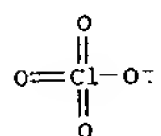
CM 2

CRN 14797-73-0
 CMF C1 O4

9/811, 357

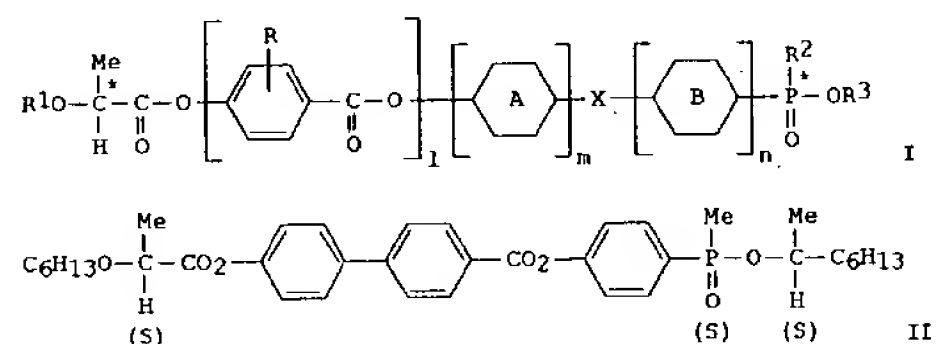
09/ 835,523

L9 ANSWER 519 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 520 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:178765 CAPLUS
 DOCUMENT NUMBER: 120:178765
 TITLE: Preparation of optically active phenylphosphinate esters as liquid crystal compounds and ferroelectric liquid crystal compositions containing them
 INVENTOR(S): Namita, Kenji; Matsuda, Kazuhiko; Suzuki, Kaoru
 PATENT ASSIGNEE(S): Lion Corp, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| JP 05155892 | A2 | 19930622 | JP 1991-343998 | 19911202 |
| PRIORITY APPLN. INFO.: JP 1991-343998 | | | 19911202 | |
| OTHER SOURCE(S): MARPAT 120:178765 | | | | |

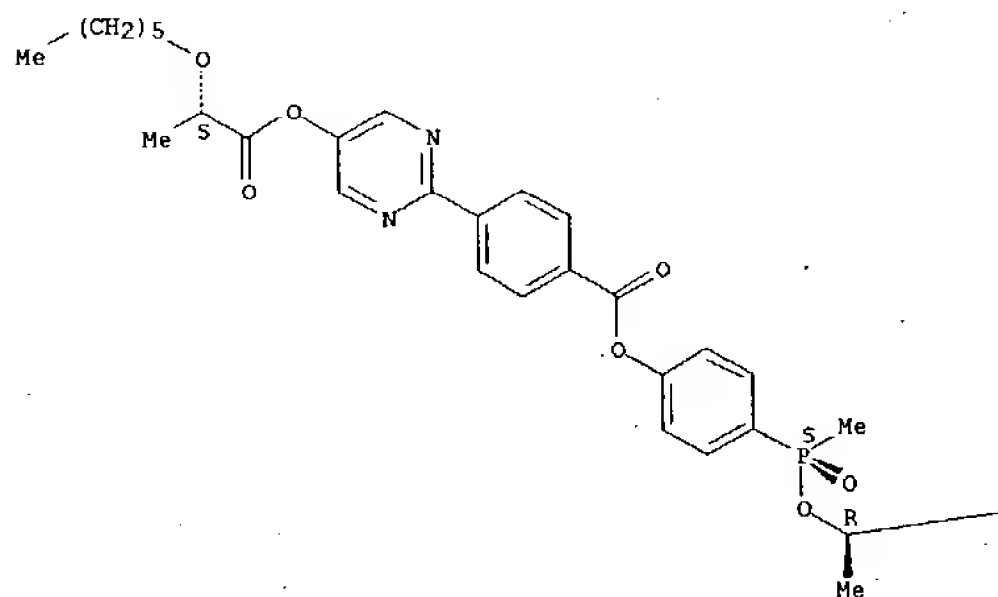


AB The title compds. [I; R1, R2 = C1-20 alkyl; R3 = C1-20 alkyl, optically active group containing an asym. C atom; X = single bond, O2C, CO2, CH2O, OCH2; C* and P* denote optically active C and P atoms, resp.; R = H, halo, OH, NO2, cyano; l = 0,1; m = 1,2; n = 1,2; l + m + n = 2, 3; A and B = (un)substituted 1,4-phenylene or pyrimidine-2,5-diyl] are prepared. I are colorless and stable against chems. and light due to the lack of an azomethine (CH=N) and a double bond (CH=CH) and show low liquid crystal temperature and good compatibility with other liquid crystal and thus when used as components of ferroelec. liquid crystal compns., provide liquid crystal devices with excellent electrooptical response speed. Since I are optically active and show good compatibility with nematic liquid crystals, they can be added to existing nematic liquid crystals for White-Taylor type color display, cholesteric-nematic phase transition-type display, and for prevention of the reverse domain formation in twisted nematic-type cells. Thus, chlorination of 4-[4-[(S)-2-hexyloxypropanoyloxy]phenyl]benzoic acid by refluxing SOCl2 containing DMF and esterification of the resulting acid chloride with (R)-1-methylheptyl (S)-methyl-4-hydroxyphenylphosphinate (preparation given) in pyridine-CH2Cl2 gave a title compound (II), which showed the isotropic to unidentified smectic phase transition at 43°. A

L9 ANSWER 520 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 liq. crystal compn. contg. a known smectic C liq. crystal
 4-[(S)-4-methylhexyloxy]phenyl 4-decyloxybenzoate and 10 mol% II showed the smectic A to chiral smectic C phase transition at 61° and a liq. crystal device contg. the compn. showed electrooptical response speed 138 μs at 22°.
 IT 152961-60-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as optically active liquid crystal)
 RN 152961-60-9 CAPLUS
 CN Benzoic acid, 4-[5-[2-(hexyloxy)-1-oxopropoxy]-2-pyrimidinyl]-, 4-[methyl[(1-methylheptyl)oxy]phosphinyl]phenyl ester, [1R-[1R*[S*(S*)]]]- (9CI) (CA INDEX NAME)

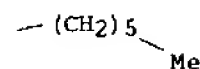
Absolute stereochemistry.

PAGE 1-A



L9 ANSWER 520 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B



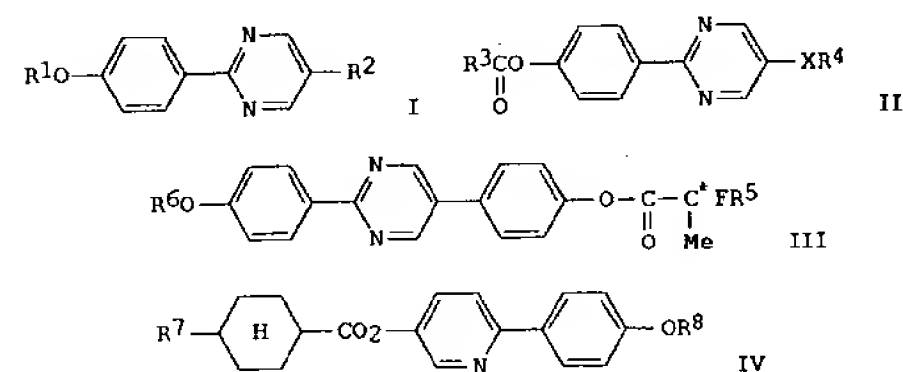
9/811, 359

09/ 835, 523

L9 ANSWER 521 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:178221 CAPLUS
 DOCUMENT NUMBER: 120:178221
 TITLE: Ferroelectric liquid crystal composition and optical switching device
 INVENTOR(S): Yoshizawa, Atsushi; Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Nitsuko Kyoseki Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05112779 | A2 | 19930507 | JP 1991-299501 | 19911021 |
| JP 2901026 | B2 | 19990602 | | |

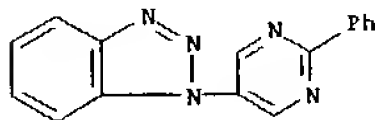
PRIORITY APPLN. INFO.: JP 1991-299501 19911021
 GI



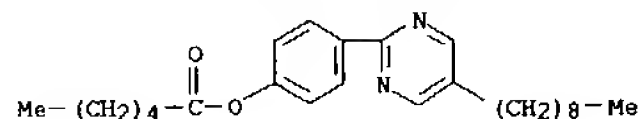
AB The title liquid crystal composition contains at least each one of (hydroxyphenyl)pyrimidine derivs. (I; R1, R2 = alkyl), (alkanoyloxy-phenyl)pyrimidine derivs. (II; R3, R4 = alkyl; X = single bond), optically active bis(hydroxyphenyl)pyrimidine monoesters (III; R5, R6 = alkyl; C* denotes an optically active asym. C atom), and (hydroxyphenyl)pyridyl cyclohexanecarboxylates (IV; R7, R8 = C1-18 alkyl). An optical switching device comprises the said composition as the constituent element. This liquid crystal composition shows stable ferroelec. liquid crystal state, chiral smectic C phase at a broad range of temperature, high speed response, and good visual recognition property.

IT 153521-71-2
 RL: USES (Uses)
 (ferroelec. chiral smectic liquid crystal composition containing, for optical switching device)
 RN 153521-71-2 CAPLUS
 CN Hexanoic acid, 4-(5-nonyl-2-pyrimidinyl)phenyl ester (9CI) (CA INDEX NAME)

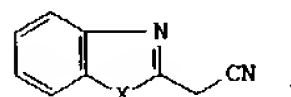
L9 ANSWER 522 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:164070 CAPLUS
 DOCUMENT NUMBER: 120:164070
 TITLE: Preparation and some reactions of a benzotriazole substituted vinamidinium salt
 AUTHOR(S): Gupton, John T.; Hicks, Fred A.; Smith, Stanton Q.; Main, A. Denise; Petrich, Scott A.; Wilkinson, Doug R.; Sikorski, James A.; Katritzky, Alan R.
 CORPORATE SOURCE: Dep. Chem., Univ. Cent. Florida, Orlando, FL, 32816, USA
 SOURCE: Tetrahedron (1993), 49(45), 10205-18
 CODEN: TETRAB; ISSN: 0040-4020
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A three step synthesis of a novel 2-(1-benzotriazolyl)vinamidinium salt is described along with its direct conversion to a series of unusual 5-(1-benzotriazolyl)pyrimidines, 4-(1-benzotriazolyl)pyrazoles, and 4-(1-benzotriazolyl)pyrroles.
 IT 153334-85-1P, 5-(1-Benzotriazolyl)-2-phenylpyrimidine
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 153334-85-1 CAPLUS
 CN 1H-Benzotriazole, 1-(2-phenyl-5-pyrimidinyl)- (9CI) (CA INDEX NAME)



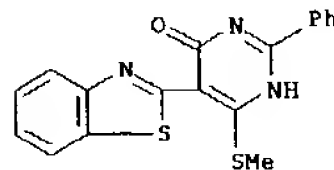
L9 ANSWER 521 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 523 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:164052 CAPLUS
 DOCUMENT NUMBER: 120:164052
 TITLE: Some reactions of 2-(cyanomethyl)benzothiazole versus the corresponding benzimidazole derivative
 AUTHOR(S): Nawwar, Galal A. M.; Zaki, Magdi M. E. A.; Chabaka, Laila M.
 CORPORATE SOURCE: Natl. Res. Cent., Cairo, Egypt
 SOURCE: Phosphorus, Sulfur and Silicon and the Related Elements (1993), 79(1-4), 195-205
 CODEN: PSSLEC; ISSN: 1042-6507
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 120:164052
 GI



AB Simple synthesis of several 2-substituted heteroaryl benzoazoles was achieved starting with the conveniently available 2-cyanomethylbenzoazoles I (X = S, NH) via addition, acylation, and condensation reactions of I followed by cyclization of the obtained polyfunctionally substituted materials which were found to be dependent on the nature of the variable heteroatom.
 IT 153259-06-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with guanidine)
 RN 153259-06-4 CAPLUS
 CN 4(1H)-Pyrimidinone, 5-(2-benzothiazolyl)-6-(methylthio)-2-phenyl- (9CI) (CA INDEX NAME)



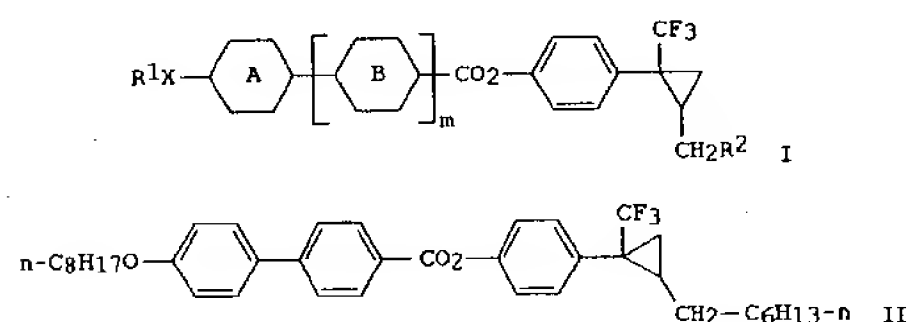
9/811, 359

09/835,523

L9 ANSWER 524 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:149753 CAPLUS
 DOCUMENT NUMBER: 120:149753
 TITLE: Preparation of optically active 1-phenyl-1-(trifluoromethyl)cyclopropane derivatives and their intermediates and liquid crystal compositions and liquid crystal devices containing them
 INVENTOR(S): Takehara, Sadao; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Kuroboshi, Manabu
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05262698 | A2 | 19931012 | JP 1992-65981 | 19920324 |

PRIORITY APPLN. INFO.: JP 1992-65981 19920324
 GI

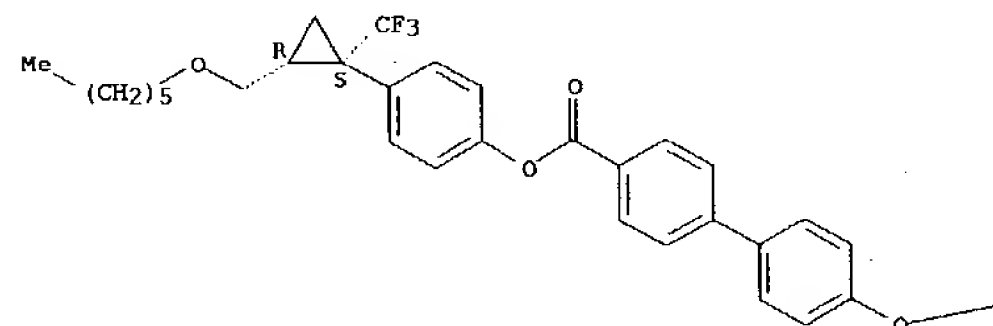


AB The title compds. [I; R1 = (F- or Cl-10 alkoxy-substituted) C1-18 alkyl; X = single bond, O, CO2, O2C, CO, OCO2; ring A, B = (F-substituted) 1,4-phenylene, trans-1,4-cyclohexylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-2,5-diyl, 1,3-dioxane-2,5-diyl; m = 0,1; R2 = C1-18 alkyl, or alkoxy; the absolute configuration of the asym. C atom of the cyclopropane ring at 1- and 2-position is R or S], e.g. (1S,2R)-II, are prepared. A liquid crystal composition contains optically active compound I and shows ferroelec. chiral smectic phase. A liquid crystal device uses the said liquid crystal composition. When I are added in a small quantity to other mother liquid crystal compns. as chiral dopants, they induce large spontaneous polarization and provide liquid crystal compns. with high speed electrooptical response due to low viscosity, excellent memory property, and a broad range of working temperature. I are readily prepared and stable against water and light and a chiral smectic liquid crystal composition containing I can show high speed response speed of $\geq 100 \mu\text{m}$ and is useful in switching devices for display.
 IT 152984-98-0
 RL: PRP (Properties)

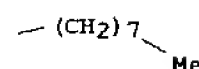
L9 ANSWER 524 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 (ferroelec. chiral smectic liq. crystal compn., for display)
 RN 152984-98-0 CAPLUS
 CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 4-[2-[(hexyloxy)methyl]-1-(trifluoromethyl)cyclopropyl]phenyl ester, (1S-cis)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) {CA INDEX NAME}
 CM 1
 CRN 152914-07-3
 CMF C38 H47 F3 O4

Absolute stereochemistry.

PAGE 1-A

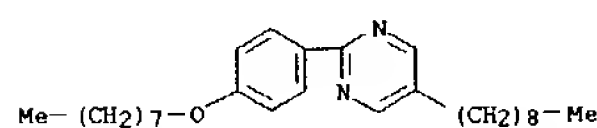


PAGE 1-B

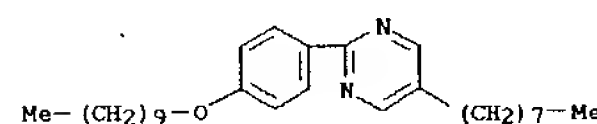


CM 2
 CRN 57202-58-1
 CMF C27 H42 N2 O

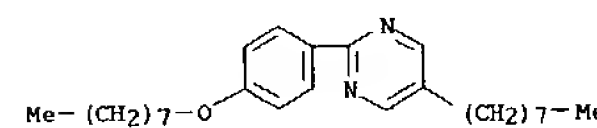
L9 ANSWER 524 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



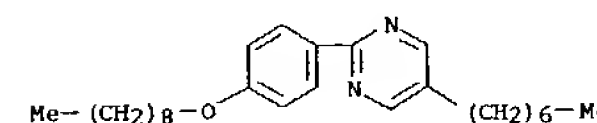
CM 3
 CRN 57202-52-5
 CMF C28 H44 N2 O



CM 4
 CRN 57202-50-3
 CMF C26 H40 N2 O



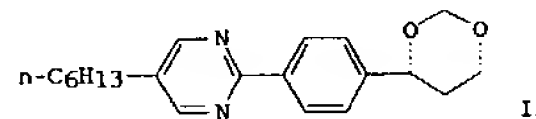
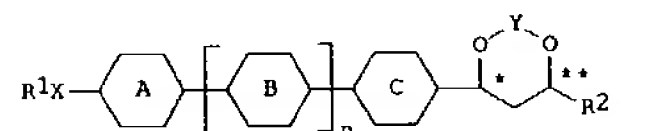
CM 5
 CRN 57202-40-1
 CMF C26 H40 N2 O



L9 ANSWER 525 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:149751 CAPLUS
 DOCUMENT NUMBER: 120:149751
 TITLE: Preparation of 1,3-dioxane derivatives and liquid crystal composition and liquid crystal display device containing them
 INVENTOR(S): Takehara, Sadao; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Ogino, Kumiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05262758 | A2 | 19931012 | JP 1992-65980 | 19920324 |

PRIORITY APPLN. INFO.: JP 1992-65980 19920324
 GI



AB The title compds. [I; R1 = (F- or Cl-10 alkoxy-substituted) C1-18 alkyl; X = single bond, O; ring A, B, and C = (1 or 2 F-substituted) 1,4-phenylene, trans-1,4-cyclohexylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl; n = 0,1; Y = CH2, CO; R2 = C1-18 alkyl; C* and C** denote optically active asym. C atoms] are prepared. A ferroelec. chiral smectic liquid crystal composition contains optically active I and a liquid crystal display device uses said composition. I have low viscosity, induce sufficiently large spontaneous polarization when added as chiral dopants to a parent liquid crystal, and provide ferroelec. liquid crystal composition with excellent orientation, large spiral pitch, high response speed at a broad range of temperature, and excellent memory property. Since I are chemical stable against water and light, I are useful as materials for liquid crystal optical switching device for display. Thus, a mixture of 92 mg (1R,3R)-1-[4-(5-hexylpyrimidin-2-yl)phenyl]nonane-1,3-diol, 20 mg p-toluenesulfonic acid, 4 mL dimethoxymethane, and 4 mL CH2Cl2 were refluxed for 3 h to give (pyrimidinylphenyl)dioxane derivative (II). A liquid crystal composition containing II and 4 phenylpyrimidine derivs. showed chiral smectic C to smectic A phase transition at 48° and a liquid crystal cell containing this composition showed electrooptical response speed 55 μs , spontaneous polarization +8.7 nC/cm, tilt angle 22.2°, and good contrast.
 IT 153219-45-5
 RL: PRP (Properties)
 (ferroelec. chiral smectic liquid crystal composition, for display)

9/811, 359

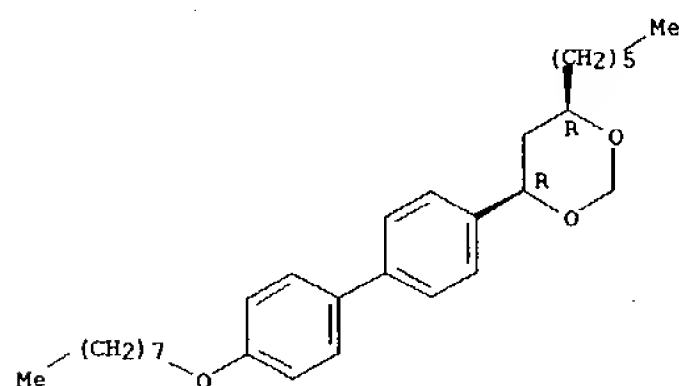
09/835,523

L9 ANSWER 525 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 RN 153219-45-5 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with
 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, (4R-cis)-4-hexyl-6-[4'-
 (octyloxy)[1,1'-biphenyl]-4-yl]-1,3-dioxane, 5-nonyl-2-[4-
 (octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine
 (9CI) (CA INDEX NAME)

CM 1

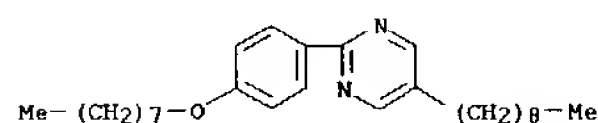
CRN 145747-66-6
 CMF C30 H44 O3

Absolute stereochemistry.



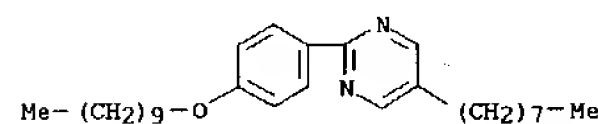
CM 2

CRN 57202-58-1
 CMF C27 H42 N2 O



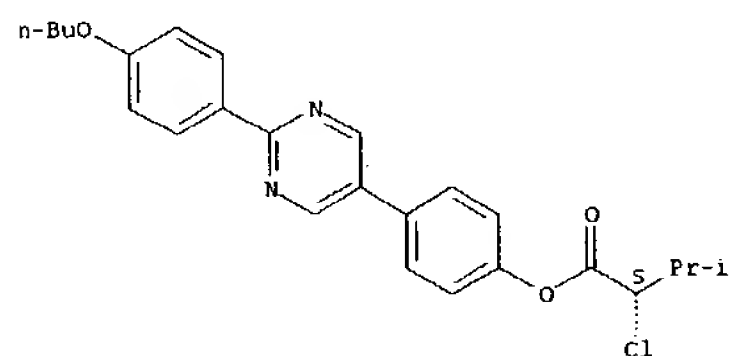
CM 3

CRN 57202-52-5
 CMF C28 H44 N2 O



L9 ANSWER 526 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:149594 CAPLUS
 DOCUMENT NUMBER: 120:149594
 TITLE: Synthesis and ferroelectric properties of a homologous
 series of chiral esters of 2,5-diphenylpyrimidines
 AUTHOR(S): Heppke, G.; Loetzsch, D.; Kampa, B.; Scherf, K. D.;
 Zaschke, H.
 CORPORATE SOURCE: Fachbereich Phys. Angew. Chem., Tech. Univ., Berlin,
 Germany
 SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung
 (1993), 335(6), 549-54
 CODEN: JPCCEM; ISSN: 0941-1216
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 AB A new homologous series of (S)-2-(4-n-alkyloxyphenyl)-5-[4-(2-chloro-3-
 methylpropanoyloxy)phenyl]pyrimidines was synthesized. Polymorphism,
 phase transition temps. and transition enthalpies as well as the
 ferroelec. properties of these compds. are presented. The influence of
 the length of the nonchiral side chain on the tilt angle (measured by
 x-ray) and the spontaneous polarization in the SmC* phase as well as in a
 novel smectic phase type (SmM*) which was discovered in these compds. is
 discussed.
 IT 153112-37-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and liquid crystal phase behavior and ferroelec. properties of)
 RN 153112-37-9 CAPLUS
 CN Butanoic acid, 2-chloro-3-methyl-, 4-[2-(4-butoxyphenyl)-5-
 pyrimidinyl]phenyl ester, (S)- (9CI) (CA INDEX NAME)

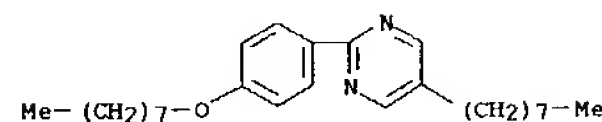
Absolute stereochemistry.



L9 ANSWER 525 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

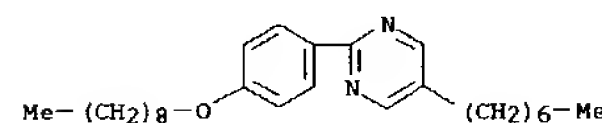
CM 4

CRN 57202-50-3
 CMF C26 H40 N2 O



CM 5

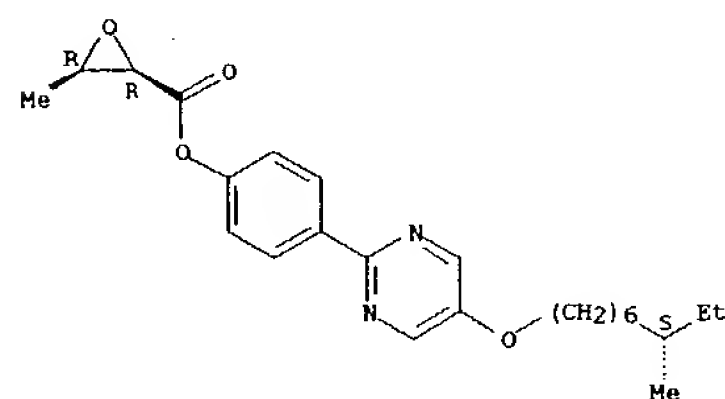
CRN 57202-40-1
 CMF C26 H40 N2 O



L9 ANSWER 527 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:149083 CAPLUS
 DOCUMENT NUMBER: 120:149083
 TITLE: Ferroelectric liquid-crystal mixtures and displays
 using them
 INVENTOR(S): Harada, Takamasa; Escher, Claus; Ilian, Gerhard;
 Kalbeitzel, Anke; Roesch, Norbert
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| EP 567854 | A1 | 19931103 | EP 1993-106129 | 19930415 |
| R: DE, FR, GB | | | | |
| JP 05297375 | A2 | 19931112 | JP 1992-144734 | 19920420 |
| US 5333075 | A | 19940726 | US 1993-47688 | 19930415 |
| PRIORITY APPLN. INFO.: JP 1992-144734 19920420 | | | | |
| AB Electrooptical display devices have a cell thickness of 1-10 μm, and contain ferroelec. liquid-crystal mixts., electrodes, and alignment layer(s), in which the ferroelec. liquid-crystal mixture has spontaneous polarization >20 nC/cm2 and natural helical pitch <1/2 the cell thickness, and contains lipophilizing, lipophilic, or amphiphilic compds. for eliminating ionic impurities. Ferroelec. liquid crystal compns. according to the invention show a significantly reduced surface memory effect and an improved display contrast. | | | | |
| IT 153171-02-9 RL: USES (Uses) (ferroelec. liquid-crystal mixts. containing, for display devices) | | | | |
| RN 153171-02-9 CAPLUS | | | | |
| CN Oxiranecarboxylic acid, 3-methyl-, 4-[5-[(7-methylnonyl)oxy]-2- pyrimidinyl]phenyl ester, [2R-[2α(5*),3α]]- (9CI) (CA INDEX NAME) | | | | |

Absolute stereochemistry.



9/811, 359

09/835,523

L9 ANSWER 528 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:122302 CAPLUS
 DOCUMENT NUMBER: 120:122302
 TITLE: Synthesis and properties of optically active phenoxypropionates: effect of halogeno substituent in the core on physical properties
 AUTHOR(S): Sugita, Shinichi; Toda, Susumu; Yoshiyasu, Takashi; Teraji, Tsutomu
 CORPORATE SOURCE: Chem. Res. Lab., Fujisawa Pharm. Co., Ltd., Osaka, 532, Japan
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1993), 237, 399-406
 CODEN: MCLCE9; ISSN: 1058-725X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Chiral phenoxypropionates having halogenated 2,5-diphenylpyrimidine cores were synthesized and the effect of a halo substituent on the phys. properties such as mesomorphic behavior, spontaneous polarization (Ps) and response time (τ) were investigated. The introduction of a halogen atom to the Ph ring of 2,5-diphenylpyrimidine core led to a decrease in the thermal stability of mesophases. The Ps values in the achiral host liquid crystal mixture were increased by introducing the halogen atom. However, response times were not improved.

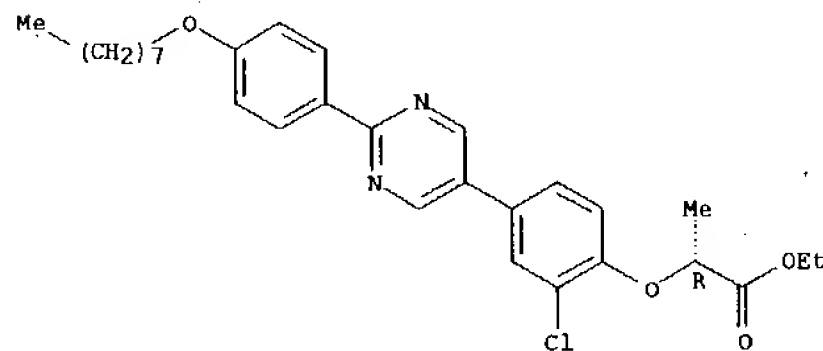
IT 153003-23-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and chiral dopant of, in ferroelec. liquid crystal)

RN 153003-23-7 CAPLUS

CN Propanoic acid, 2-[2-chloro-4-[2-[4-(octyloxy)phenyl]-5-pyrimidinyl]phenoxy]-, ethyl ester, (R)- (9CI) (CA INDEX NAME)

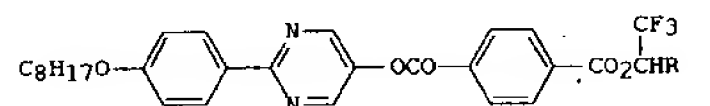
Absolute stereochemistry.



L9 ANSWER 529 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:120906 CAPLUS
 DOCUMENT NUMBER: 120:120906
 TITLE: Preparation of optically active 2-(4-octyloxyphenyl)-5-pyrimidinyl 4-(1-trifluoromethylalkoxycarbonyl)benzoates showing tristable chiral smectic liquid-crystal phase
 INVENTOR(S): Mogami, Hiroyuki; Yamakawa, Noriko; Suzuki, Giichi; Okabe, Nobuhiro; Suenaga, Hitoshi; Hasegawa, Yasuhiro
 PATENT ASSIGNEE(S): Showa Shell Sekiyu, Japan; Teikoku Hormone Mfg Co Ltd
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05230035 | A2 | 19930907 | JP 1992-72961 | 19920224 |

PRIORITY APPLN. INFO.: JP 1992-72961 19920224
 GI



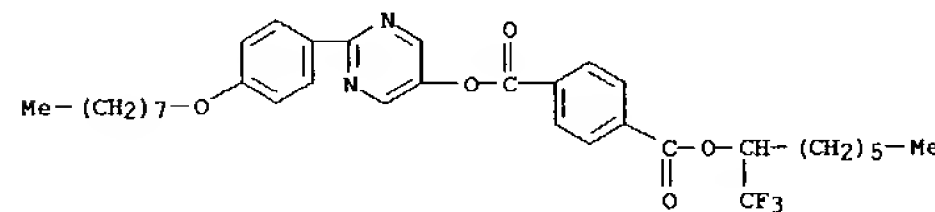
AB The title optically active compds. I (R = C6-8 n-alkyl) showing small light leakage rate at their tristable states are claimed. I provide liquid-crystal display devices with high contrast using their tristable chiral smectic phase.

IT 152431-83-9P

RL: PREP (Preparation)
 (preparation of, as tristable chiral smectic liquid crystal for display devices)

RN 152431-83-9 CAPLUS

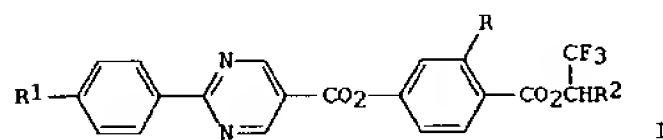
CN 1,4-Benzenedicarboxylic acid, 2-[4-(octyloxy)phenyl]-5-pyrimidinyl 1-(trifluoromethyl)heptyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 530 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:120905 CAPLUS
 DOCUMENT NUMBER: 120:120905
 TITLE: Preparation of optically active 4-(1-trifluoromethylalkoxycarbonyl)phenyl 2-phenyl-5-pyrimidinecarboxylates showing tristable chiral smectic liquid-crystal phase
 INVENTOR(S): Mogami, Hiroyuki; Yamakawa, Noriko; Suzuki, Giichi; Okabe, Nobuhiro; Suenaga, Hitoshi; Hasegawa, Yasuhiro
 PATENT ASSIGNEE(S): Showa Shell Sekiyu, Japan; Teikoku Hormone Mfg Co Ltd
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05230033 | A2 | 19930907 | JP 1992-72960 | 19920224 |

PRIORITY APPLN. INFO.: JP 1992-72960 19920224
 GI



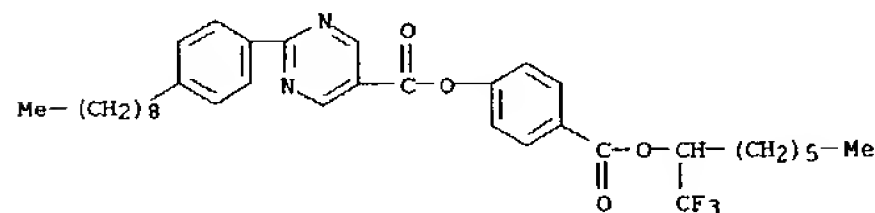
AB The title optically-active compds. I (R = H, F; R1 = C8-12 n-alkyl, n-alkoxy; R2 = C6-8 n-alkyl) showing small light leakage rate at their tristable states are claimed. I provide liquid-crystal display devices with high contrast using their tristable chiral smectic phase.

IT 152431-73-7P

RL: PREP (Preparation)
 (preparation of, as tristable chiral smectic liquid crystal for display devices)

RN 152431-73-7 CAPLUS

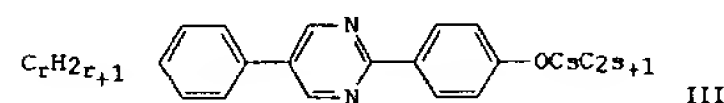
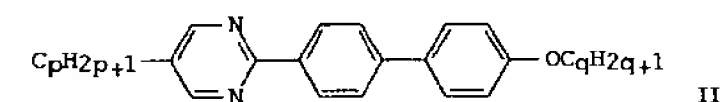
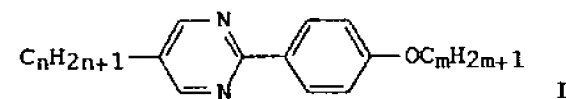
CN 5-Pyrimidinecarboxylic acid, 2-(4-nonylphenyl)-, 4-[[[1-(trifluoromethyl)heptyl]oxy]carbonyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 531 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:120875 CAPLUS
 DOCUMENT NUMBER: 120:120875
 TITLE: Ferroelectric liquid-crystal display apparatus
 INVENTOR(S): Taniguchi, Tsunako; Shinomya, Tokihiko; Kuratate, Tomoaki; Koden, Mitsuhico
 PATENT ASSIGNEE(S): Sharp Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05053114 | A2 | 19930305 | JP 1991-213536 | 19910826 |

PRIORITY APPLN. INFO.: JP 1991-213536 19910826
 GI



AB The title apparatus comprises a pair of opposing substrates having orientation-treated orientation films with the orientation treatment direction of the orientation films roughly parallel to each other and a chiral smectic C ferroelec. liquid crystal layer interposed between the substrates, wherein the orientation films are organic orientation films providing tilt angle 8-30° by orientation treatment and the ferroelec. liquid crystal layer consists of a ferroelec. liquid crystal composition containing phenylpyrimidine derivs. (I, II, and/or III; n, m, p, q, r, s = 1-15) and having a bend (chevron) structure. The apparatus provides high-contrast matrix-type display with large capacity and is used for a watch, an electronic calculator, a personal computer, a word processor, and a pocket TV.

IT 152571-75-0

RL: USES (Uses)
 (ferroelec. chiral smectic C liquid crystal composition, for display devices)

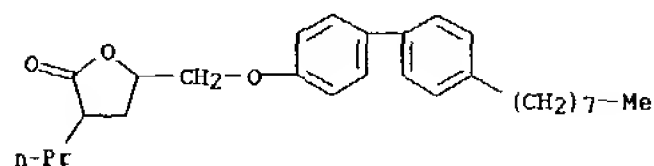
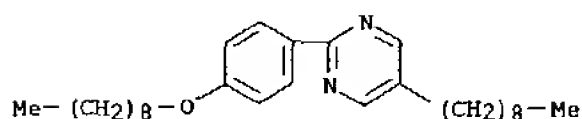
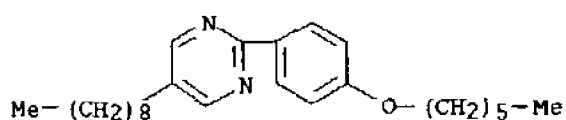
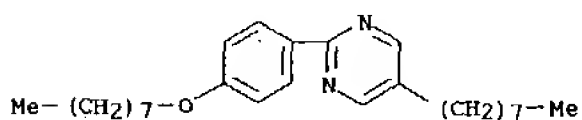
RN 152571-75-0 CAPLUS

CN 2(3H)-Furanone, dihydro-5-[[[4'-octyl[1,1'-biphenyl]-4-yl]oxy]methyl]-3-propyl-, mixt. with 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine, 5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

9/811,359

09/835,523

L9 ANSWER 531 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 1
CRN 152571-74-9
CMF C28 H38 O3CM 2
CRN 99895-85-9
CMF C28 H44 N2 OCM 3
CRN 57202-56-9
CMF C25 H38 N2 OCM 4
CRN 57202-50-3
CMF C26 H40 N2 O

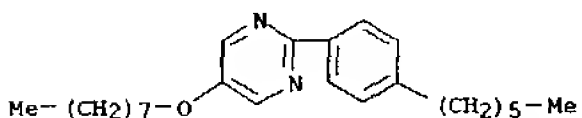
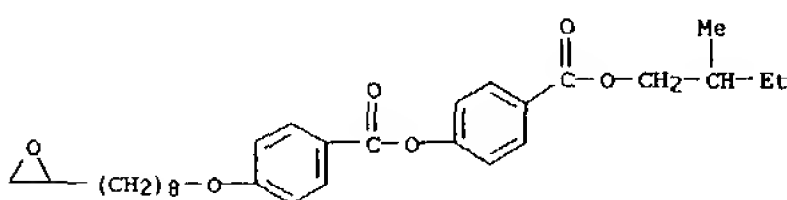
CM 5

L9 ANSWER 532 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

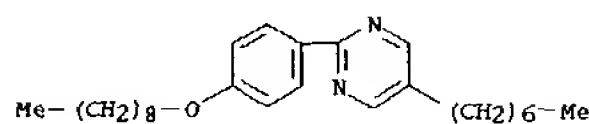
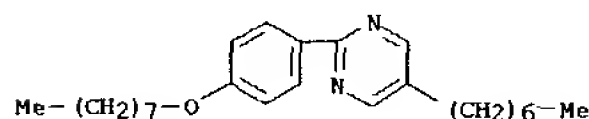
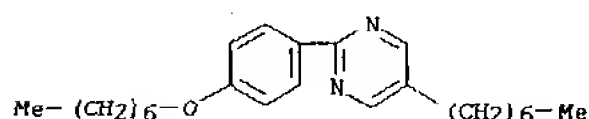
ACCESSION NUMBER: 1994:120865 CAPLUS
DOCUMENT NUMBER: 120:120865
TITLE: Ferroelectric polymeric liquid crystal composition
INVENTOR(S): Ido, Motohisa; Hashimoto, Kenji; Kawasaki, Kenji
PATENT ASSIGNEE(S): Idemitsu Kosan K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 04059890 | A2 | 19920226 | JP 1990-169825 | 19900629 |
| JP 2519822 | B2 | 19960731 | | |

PRIORITY APPLN. INFO.: JP 1990-169825 19900629
AB The title ferroelec. polymeric liquid crystal composition comprises an asym. C-containing liquid crystal polymer and a nonoptically active smectic C low-mol.-weight liquid crystal having a heterocyclic skeleton. The composition shows quick response and good film-forming property.
IT 152738-66-4
RL: TEM (Technical or engineered material use); USES (Uses) (liquid crystal composition, for display devices)
RN 152738-66-4 CAPLUS
CN Benzoic acid, 4-[(8-oxiranylethyl)oxy]-, 4-[(2-methylbutoxy)carbonyl]phenyl ester, mixt. with 2-(4-hexylphenyl)-5-(octyloxy)pyrimidine (9CI) (CA INDEX NAME)

CM 1
CRN 121640-67-3
CMF C24 H36 N2 OCM 2
CRN 117347-59-8
CMF C29 H38 O6

L9 ANSWER 531 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

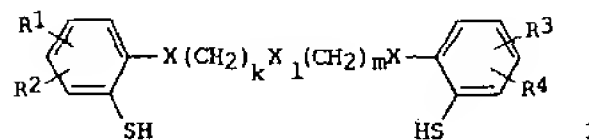
CRN 57202-40-1
CMF C26 H40 N2 OCM 6
CRN 57202-39-8
CMF C25 H38 N2 OCM 7
CRN 57202-38-7
CMF C24 H36 N2 O

L9 ANSWER 533 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:120864 CAPLUS
DOCUMENT NUMBER: 120:120864
TITLE: Ferroelectric liquid-crystal mixtures containing aromatic mercapto compounds, and electrooptical switching and display devices using them
INVENTOR(S): Magerstaedt, Michael; Roesch, Norbert; Wingen, Rainer
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 7 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| DE 4025236 | A1 | 19920213 | DE 1990-4025236 | 19900809 |
| US 5250215 | A | 19931005 | US 1991-741136 | 19910807 |
| JP 04363389 | A2 | 19921216 | JP 1991-200514 | 19910809 |

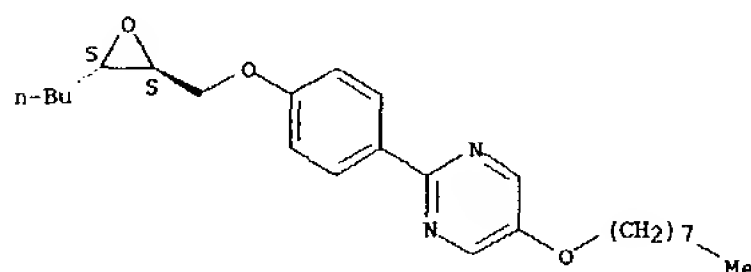
PRIORITY APPLN. INFO.: DE 1990-4025236 19900809
OTHER SOURCE(S): MARPAT 120:120864
GI



AB The mercapto compds. have the general formula I, where R1-4 = H or C1-8 alkyl or alkoxy; X = O, S, or NH; k, m = 1-3; and l = 0 or 1.

IT 152397-24-5
RL: USES (Uses) (ferroelec. liquid-crystal mixts. containing, for switching and display devices)
RN 152397-24-5 CAPLUS
CN Pyrimidine, 2-[4-[(3-butyloxiranyl)methoxy]phenyl]-5-(octyloxy)-, (2S-trans)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



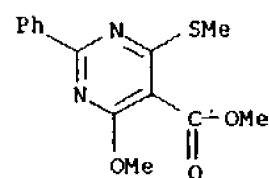
9/811, 359

09/035,523

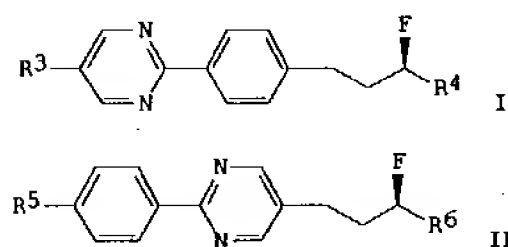
L9 ANSWER 534 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:106972 CAPLUS
DOCUMENT NUMBER: 120:106972
TITLE: Biheterocyclic agrochemical fungicidal compounds
INVENTOR(S): Mellor, Michael; Riordan, Peter Dominic
PATENT ASSIGNEE(S): Schering Agrochemicals Ltd., UK
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXDZ
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9313664 | A2 | 19930722 | WO 1993-GB29 | 19930108 |
| W: AU, BG, BR, CA, FI, HU, JP, KR, NO, NZ, PL, RO, RU, SD, UA, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG | | | | |
| AU 9332625 | A1 | 19930803 | AU 1993-32625 | 19930108 |
| CN 1076697 | A | 19930929 | CN 1993-101723 | 19930111 |
| PRIORITY APPLN. INFO.: | | | GB 1992-557 | 19920111 |
| | | | GB 1992-13145 | 19920620 |
| | | | GB 1992-13148 | 19920620 |
| | | | WO 1993-GB29 | 19930108 |

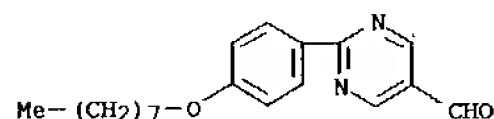
OTHER SOURCE(S): MARPAT 120:106972
GI For diagram(s), see printed CA Issue:
AB The title compds. I [ring A is an (un)substituted 6-member ring containing 1 or 2 N atoms; R1 = Q, CN, halogen, NO2; Q = H, (un)substituted acyl, (un)substituted alkyl, (un)substituted cycloalkyl, (un)substituted alkenyl, etc.; R2 = Q, SiR3R4R5, etc.; R3-R5 = H, (un)substituted alkyl, (un)substituted cycloalkyl, (un)substituted alkenyl, (un)substituted alkynyl, etc.; X = O, S, NR3; Z = S(O)n, O; n = 0-2; when X = O or NR3, then R2 may also be NR4R5, or when X = NR3, then R2 can also be OR4], useful for combating phytopathogenic fungi, are prepared. Thus, iso-Pr 2-chloronicotinate and iso-Pr mercaptoacetate were reacted together, forming iso-Pr 2-(isopropoxycarbonylmethylthio)nicotinate, which was treated with NaH for 19 h, producing iso-Pr 3-hydroxythieno[2,3-b]pyridine-2-carboxylate (II), m.p. 79-81°. II demonstrated fungicidal activity against apple scab (i.e., Venturia inaequalis).
IT 152525-91-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparation of heterocyclic agrochem. fungicides)
RN 152525-91-2 CAPLUS
CN 5-Pyrimidinecarboxylic acid, 4-methoxy-6-(methylthio)-2-phenyl-, methyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 535 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:106916 CAPLUS
DOCUMENT NUMBER: 120:106916
TITLE: Synthesis and electro-optical properties of 3-fluoroalkyl-substituted phenylpyrimidines as chiral dopants for ferroelectric liquid crystals
AUTHOR(S): Kusumoto, Tetsuo; Ogino, Kumiko; Sato, Kenichi; Hiyama, Tamejiro; Takehara, Sadao; Nakamura, Kayoko
CORPORATE SOURCE: Sagami Chem. Res. Cent., Sagamihara, 229, Japan
SOURCE: Chemistry Letters (1993), (7), 1243-6
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 120:106916
GI



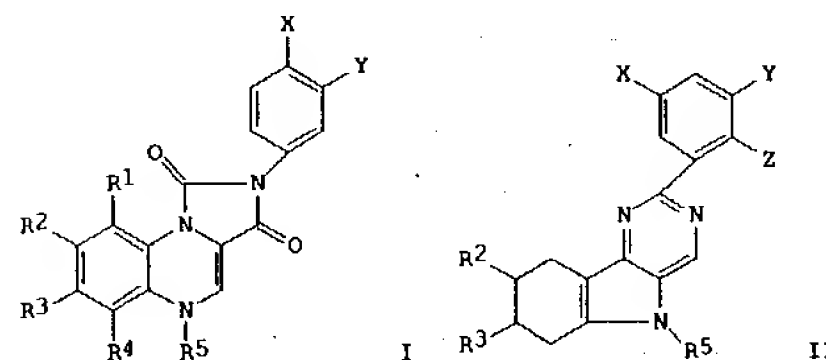
AB Starting with (R)-1,2-epoxyalkenes, (S)-5-alkyl (or alkoxy)-2-[4-(3-fluoroalkyl)phenyl]pyrimidines I (R3 = alkyl, alkoxy; R4 = alkyl) and (S)-5-(3-fluoroalkyl)-2-[4-(alkoxyphenyl)pyrimidines II (R5 = alkoxy; R6 = alkyl) were prepared and shown to be good chiral dopants for achieving fast response of ferroelec. liquid crystals mixts.
IT 152291-73-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation as intermediate for (fluoroalkyl) (alkoxyphenyl)pyrimidine ferroelec. liquid crystal dopant)
RN 152291-73-1 CAPLUS
CN 5-Pyrimidinecarboxaldehyde, 2-[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 534 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

L9 ANSWER 536 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:95809 CAPLUS
DOCUMENT NUMBER: 120:95809
TITLE: Novel GABAA receptor subtypes and methods for screening drug compounds using imidazoquinoxalines and pyrrolopyrimidines to bind to GABAA receptor subtypes
INVENTOR(S): Shaw, Kenneth; Hutchison, Alan; Thurkauf, Andrew; Tallman, John
PATENT ASSIGNEE(S): Neurogen Corp., USA
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXDZ
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| WO 9322681 | A1 | 19931111 | WO 1993-US3920 | 19930430 |
| W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, RO, RU, SD, SE, SK, UA, US, VN | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| US 5597920 | A | 19970128 | US 1992-876050 | 19920430 |
| AU 9341177 | A1 | 19931129 | AU 1993-41177 | 19930430 |
| AU 691470 | B2 | 19980521 | | |
| EP 639275 | A1 | 19950222 | EP 1993-910819 | 19930430 |
| EP 639275 | B1 | 19970917 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| JP 08500333 | T2 | 19960116 | JP 1993-519445 | 19930430 |
| AT 158414 | E | 19971015 | AT 1993-910819 | 19930430 |
| ES 2110090 | T3 | 19980201 | ES 1993-910819 | 19930430 |
| US 5688654 | A | 19971118 | US 1994-331501 | 19941028 |
| PRIORITY APPLN. INFO.: | | | US 1992-876050 | 19920430 |
| | | | WO 1993-US3920 | 19930430 |
| OTHER SOURCE(S): | | | MARPAT 120:95809 | |
| GI | | | | |



AB Imidazoquinoxalines I and pyrrolopyrimidines II (R1-R4, X, Y = H, halo, alkyl, alkoxy; R5 = H, lower alkyl; Z = H, F) bind selectively to a novel subtype of the GABAA binding site. Selective interaction of ligands at

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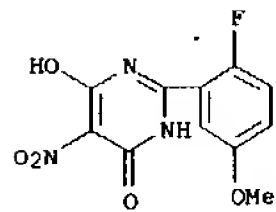
L9 ANSWER 536 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
this unique receptor population results in pharmacol. specificity which
may lead to superior anxiolytics, cognition enhancers, anticonvulsants,
and hypnotics. Such drugs may be screened by measuring their competition
with 3H- or I isotope-labeled I or II for binding to these GABAA
receptors. Thus, I (R1-R5, Y = H; X = OEt) (III) bound with high affinity
(Ki 0.5 nM) to rat cortical GABAA receptors. III-3H was prepd. by
reaction of 2-nitrophenyl isocyanate, 3-bromo-4-ethoxyaniline, and
ClCH2COCl, redn. of the NO2 group with Fe powder to cyclize, further
bromination in positions 6 and 8, and tritiation with T2 over Pd/C.

IT 152336-01-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and chlorination of)

RN 152336-01-1 CAPLUS

CN 4 (1H)-Pyrimidinone, 2-(2-fluoro-5-methoxyphenyl)-6-hydroxy-5-nitro- (9CI)
(CA INDEX NAME)



L9 ANSWER 537 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:91520 CAPLUS

DOCUMENT NUMBER: 120:91520

TITLE: Preparation of optically active biphenylcarboxylic acid
esters as liquid crystals and liquid crystal
compositions containing said esters
INVENTOR(S): Nohira, Hiroyuki; Aoki, Yoshio; Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF

DOCUMENT TYPE:

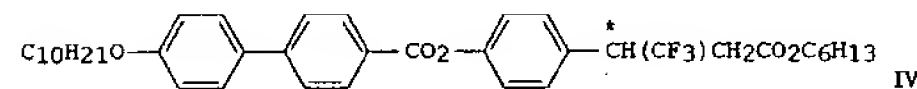
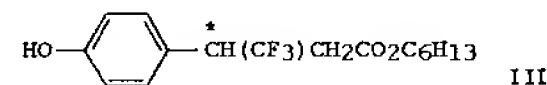
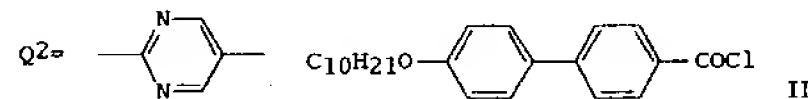
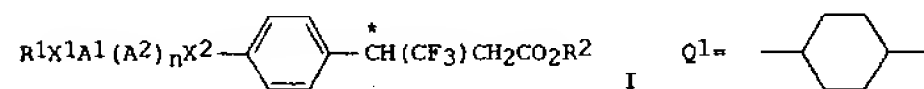
LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------|-----------------|----------|
| JP 05221927 | A2 | 19930831 | JP 1992-26828 | 19920213 |
| PRIORITY APPLN. INFO.: | | | JP 1992-26828 | 19920213 |
| OTHER SOURCE(S): | | MARPAT 120:91520 | | |

GI



AB The title compds. I (R1, R2 = alkyl; X1 = single bond, O, CO2, etc.; X2 =
CO2, CH2O; A1, A2 = Q1, Q2, etc.; n = 0, 1; C* indicates optical active C
atom) were prepared. Reaction of acid chloride II with optically active
phenol derivative III in the presence of triethylenediamine gave title compound
IV with [α]_D = -18° (chloroform). IV showed a phase
transition temperature of 75.5° between the SA and Iso phases.

IT 152191-82-7

RL: PRP (Properties)
(liquid crystal composition)

RN 152191-82-7 CAPLUS

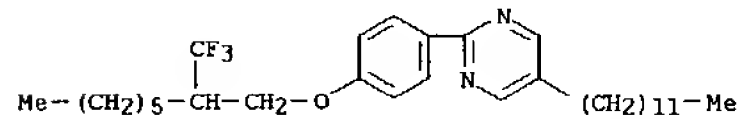
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(decyloxy)-, 4-[3-(hexyloxy)-3-oxo-1-
(trifluoromethyl)propyl]phenyl ester, mixt. with 5-decyl-2-[4-
(octyloxy)phenyl]pyrimidine, 5-decyl-2-[4-[[2-
(trifluoromethyl)octyl]oxy]phenyl]pyrimidine, 5-dodecyl-2-[4-[[2-
(trifluoromethyl)octyl]oxy]phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-

L9 ANSWER 537 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
octylpyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine,
trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-butylcyclohexanecarboxylate,
trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-pentylcyclohexanecarboxylate and
trans-4-(5-undecyl-2-pyrimidinyl)phenyl 4-propylcyclohexanecarboxylate
(9CI) (CA INDEX NAME)

CM 1

CRN 152191-81-6

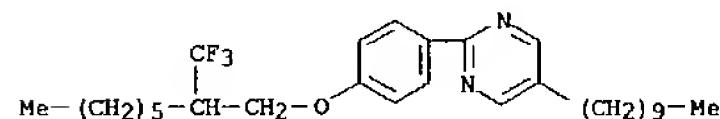
CMF C31 H47 F3 N2 O



CM 2

CRN 152191-80-5

CMF C29 H43 F3 N2 O



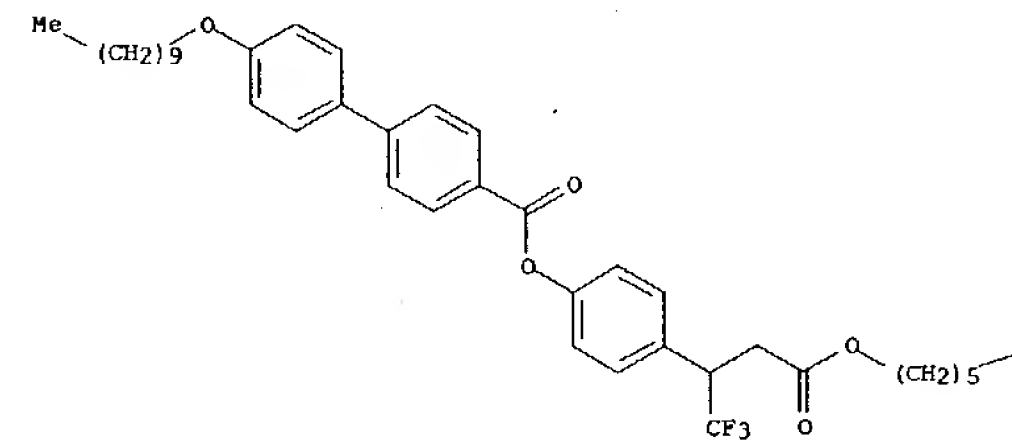
CM 3

CRN 152191-79-2

CMF C39 H49 F3 O5

Rotation (-).

PAGE 1-A



L9 ANSWER 537 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

PAGE 1-B

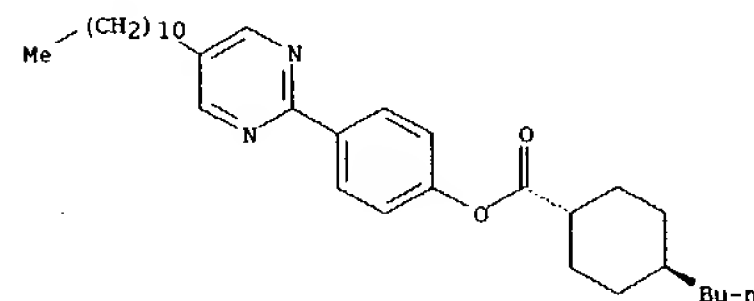
Me

CM 4

CRN 121639-89-2

CMF C32 H48 N2 O2

Relative stereochemistry.

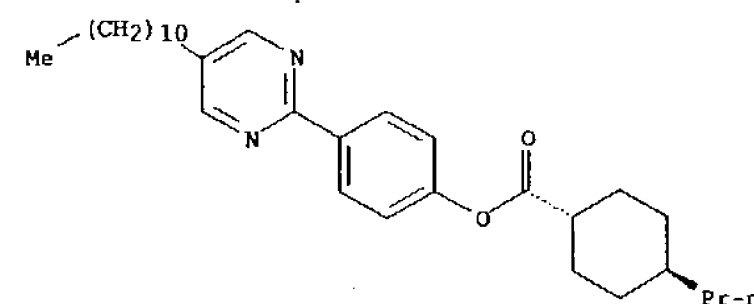


CM 5

CRN 121639-88-1

CMF C31 H46 N2 O2

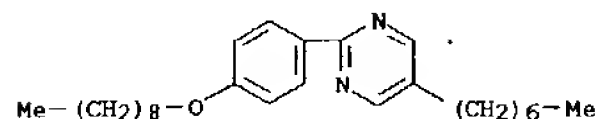
Relative stereochemistry.



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09/ 835, 523

L9 ANSWER 538 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



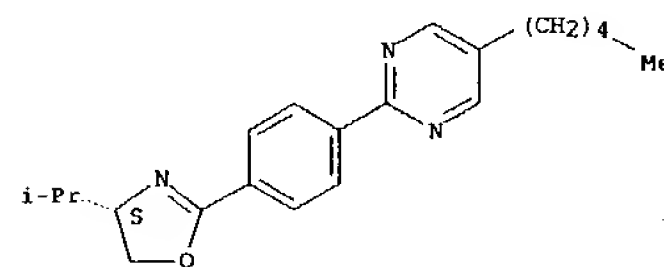
L9 ANSWER 539 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:91518 CAPLUS
 DOCUMENT NUMBER: 120:91518
 TITLE: Chiral oxazolines as dopants for liquid crystal mixtures, the mixtures, and their use
 INVENTOR(S): Kelly, Stephen; Buchecker, Richard
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 24 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------|------|----------|-----------------|----------|
| EP 534258 | A1 | 19930331 | EP 1992-115653 | 19920914 |
| EP 534258 | B1 | 19970521 | | |
| R: CH, DE, FR, GB, IT, LI, NL | | | | |
| US 5360577 | A | 19941101 | US 1992-946987 | 19920917 |
| JP 05202010 | A2 | 19930810 | JP 1992-281163 | 19920928 |
| JP 2919199 | B2 | 19990712 | | |
| PRIORITY APPLN. INFO.: | | | CH 1991-2862 | 19910926 |
| | | | CH 1991-2951 | 19911007 |
| | | | CH 1992-1128 | 19920407 |

OTHER SOURCE(S): MARPAT 120:91518
 AB The title oxazolines comprise optically active oxazole derivs. in which a selected aryl group, or a chain incorporating acyl groups, is attached to the 2 position via a single bond or a -CH2CH2-bridging group and in which a C1-12 alkyl group, a C1-12 alkoxyethyl group, or a p-alkoxyphenyl or p-alkoxybenzyl group is attached at the 4 position and a H, C1-12 alkyl group, or Ph group is attached at the 5 position. Liquid crystal mixts. containing the derivs. and the use of the mixts. in optical or electrooptical applications are also described.
 IT 152619-46-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and use of, as dopant for liquid crystal mixts.)
 RN 152619-46-0 CAPLUS
 CN Pyrimidine, 2-[4-[4,5-dihydro-4-(1-methylethyl)-2-oxazolyl]phenyl]-5-pentyl-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



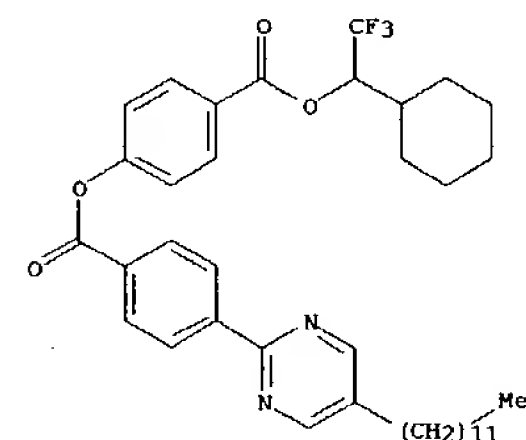
L9 ANSWER 540 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:91041 CAPLUS
 DOCUMENT NUMBER: 120:91041
 TITLE: Preparation of optically active fluorine-containing compounds, liquid-crystal compositions containing them, and liquid-crystal devices
 INVENTOR(S): Namekawa, Masaaki; Nayuki, Shinichi; Ito, Keizo; Takeda, Mitsunori; Murayama, Yoshinobu
 PATENT ASSIGNEE(S): Kashima Sekyu Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05213881 | A2 | 19930824 | JP 1992-19976 | 19920205 |
| JP 2869236 | B2 | 19990310 | | |

PRIORITY APPLN. INFO.: JP 1992-19976 19920205
 AB Optically active RXA1(YA2)m2CHR1R2 (I; R = C3-18 linear or branched alkyl; R1 = C1-2 fluoroalkyl; R2 = C4-12 cycloalkyl; A1-2 = Q, Q1, 2,5-pyridinediyl, 3,6-pyridazinediyl, QQ, QQ1, 2,6-naphthylene, Q2Q, Q3Q, Q1Q, QQ2, 1-4 H of these groups may be substituted with halo; Q = 1,4-C6H4; Q1 = 1,4-cyclohexylene; Q2 = 5,2-pyrimidinediyl, Q3 = 5,2-dioxanediyl; X = direct bond, O, CO2, OCO, OCO2; Y = direct bond, CO2, OCO, OCH2, CH2O; Z = O, CO2, CH2O) and liquid-crystal compns. containing ≥1 I and liquid-crystal compds. except for I or liquid-crystal mixts. showing a chiral smectic C phase and/or those showing a smectic C phase are claimed. Liquid-crystal devices having the liquid-crystal compns. between a pair of substrates with an electrode are also claimed. I show an antiferroelec. chiral smectic CA liquid-crystal phase and are useful for display devices.
 IT 152461-00-2P
 RL: PREP (Preparation)
 (preparation of, as chiral smectic CA liquid crystal)
 RN 152461-00-2 CAPLUS
 CN Benzoic acid, 4-(5-dodecyl-2-pyrimidinyl)-, 4-[(1-cyclohexyl-2,2,2-trifluoroethoxy)carbonyl]phenyl ester, (+)- (9CI) (CA INDEX NAME)

Rotation (+).



L9 ANSWER 540 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

9/811, 359

09/835,523

L9 ANSWER 541 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:91038 CAPLUS
 DOCUMENT NUMBER: 120:91038
 TITLE: Preparation of trifluorolactic acid derivatives, liquid-crystal compositions containing them, and optical switching devices
 INVENTOR(S): Yokoyama, Akihisa
 PATENT ASSIGNEE(S): Nitsuko Kyoseki Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

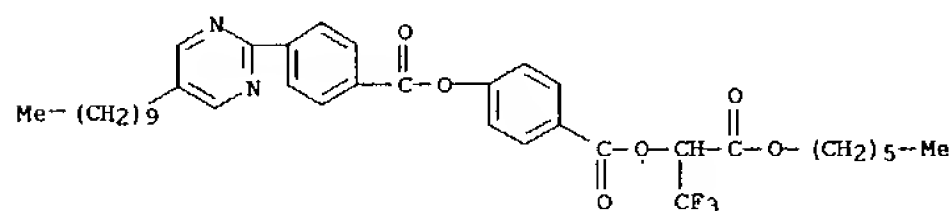
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 05213821 | A2 | 19930824 | JP 1992-22943 | 19920207 |
| PRIORITY APPLN. INFO.: | | JP 1992-22943 19920207 | | |

AB RIXAYD(ZE)NCO2CH(CF3)CO2R2 [I; R1-2 = (un)substituted alkyl; A, D, E = 1,4-C6H4, 1,4-cyclohexylene, 2,5-pyrimidinylene, 2,5-pyridylene; R1-2, A, D, E may be substituted with halo, Me, CF3, OMe, cyano, OH; X = direct bond, O, CO2, OCO, OCO2, CO; Y, Z = direct bond, CO2, OCO, OCH2, CH2O; n = 0, 1], liquid-crystal compns. containing ≥ 1 I as an optically active component and ≥ 1 nonoptically active liquid-crystal material, and optical switching devices using the liquid-crystal compns. are claimed. I show a stable smectic C liquid-crystal phase and addition of I to nonchiral liquid-crystal compns. provides ferroelec. chiral smectic C liquid-crystal compns. with large spontaneous polarization and high-speed response.

IT 152460-78-1P
 RL: PREP (Preparation)
 (preparation of, as smectic C liquid crystal)

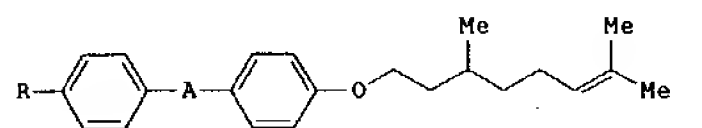
RN 152460-78-1 CAPLUS

CN Benzoic acid, 4-(5-decyl-2-pyrimidinyl)-, 4-[[2,2,2-trifluoro-1-(hexyloxy)carbonyl]ethoxy]carbonyl]phenyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 542 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:91037 CAPLUS
 DOCUMENT NUMBER: 120:91037
 TITLE: Preparation of optically active [(citronellyloxy)phenyl]pyrimidines as helical pitch controllers and liquid-crystal compositions containing them
 INVENTOR(S): Shimazaki, Masato; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|------------------------|-----------------|----------|
| JP 05201995 | A2 | 19930810 | JP 1992-14284 | 19920129 |
| PRIORITY APPLN. INFO.: | | JP 1992-14284 19920129 | | |

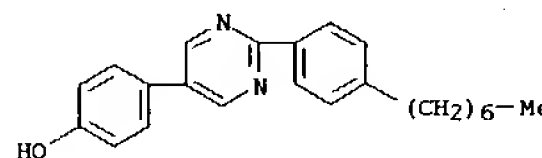


AB The title compds. I [R = C1-20 (un)substituted linear or branched alkyl; A = 2,5- or 5,2-pyrimidinediyl] and liquid crystal compns. containing I are claimed. I are useful as components to make helical pitch longer in preparation of chiral nematic and chiral smectic C liquid crystal compns. for display devices.

IT 151360-42-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (etherification of, with citronellyl tosylate, helical pitch controller from, for chiral nematic and smectic C liquid crystal compns.)

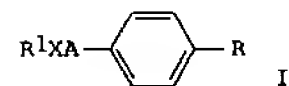
RN 151360-42-8 CAPLUS

CN Phenol, 4-[2-(4-heptylphenyl)-5-pyrimidinyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 543 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:91035 CAPLUS
 DOCUMENT NUMBER: 120:91035
 TITLE: Preparation of optically active liquid-crystalline 3-hydroxyalkanoxyphenyl compounds, liquid crystal compositions containing them, and display devices using them.
 INVENTOR(S): Takehara, Sadao; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Nakayama, Akiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| JP 05201916 | A2 | 19930810 | JP 1992-160982 | 19920619 |
| PRIORITY APPLN. INFO.: | | JP 1991-285086 19911030 | | |

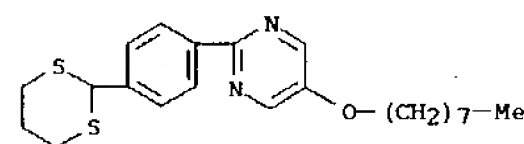


AB The title compds. I [R = COCH2CH2OH; R1 = (un)substituted C1-18 alkyl; R2 = C1-18 alkyl; X = direct bond, O; A = 1,4-C6H4, trans-1,4-cyclohexylene, pyrimidine-2,5-diyl, pyrimidine-2,5-diyl, pyridine-2,5-diyl] (II) and I [R = 1,3-dithian-2-yl; R1, X = have the same definitions as in II], liquid crystal compns. containing I, and liquid-crystal display devices using the liquid crystal compns. are claimed. II are useful as chiral dopants for preparation of chiral smectic C liquid crystal compns. and are also useful as additives for nematic liquid crystal compns. to prevent reverse domain formation and for supertwisted nematic liquid-crystal display devices.

IT 150809-87-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in forming chiral dopant for smectic C liquid crystal compns.)

RN 150809-87-3 CAPLUS

CN Pyrimidine, 2-[4-(1,3-dithian-2-yl)phenyl]-5-(octyloxy)- (9CI) (CA INDEX NAME)



L9 ANSWER 544 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:91033 CAPLUS
 DOCUMENT NUMBER: 120:91033
 TITLE: Antiferroelectric liquid-crystal composition, light-switching elements using it, and decrease of its threshold voltage
 INVENTOR(S): Murashiro, Katsuyuki; Kikuchi, Makoto; Saito, Shinichi
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Eur. Pat. Appl., 36 pp.
 CODEN: EPPXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------------|-----------------|----------|
| EP 562627 | A1 | 19930929 | EP 1993-105049 | 19930326 |
| EP 562627 | B1 | 19991208 | | |
| R: CH, DE, GB, LI | | | | |
| JP 05271658 | A2 | 19931019 | JP 1992-102041 | 19920327 |
| US 5316694 | A | 19940531 | US 1993-36882 | 19930325 |
| PRIORITY APPLN. INFO.: | | JP 1992-102041 19920327 | | |

OTHER SOURCE(S): MARPAT 120:91033

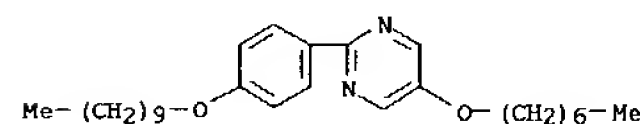
AB An antiferroelec. liquid-crystal composition comprising a 1st component comprising ≥ 1 compound expressed by the formula R1AkBlXcmDnR2 and exhibiting no antiferroelec. phase and a 2nd component comprising ≥ 1 compound expressed by the formula R3EpFqZGtHuCO(O)jCH(Me)R4 and exhibiting an antiferroelec. phase, the contents of the 1st and 2nd components being 1-40 and 60-99%, resp., based on the total weight of the 2 components: in the formulas, R1,R3 = C1-18 linear alkyl or alkoxy; R2 = C1-18 alkyl or alkoxy; R4 = C2-18 alkyl or alkoxy; k,l,m,n,p,q,t,u = 0 or 1; (k + l), (m + n), (p + q), (t + u) = 1 or 2; (k + l) + (m + n), (p + q) + (t + u) = 2 or 3; X,Z = OCH2, CH2O, COO, OCO, or single bond; and the 6-membered rings A,B,C,D,E,F,G,H = 1,4-phenylene, pyrimidine-2,5-diyl, pyrimidine-2,5-diyl, pyridine-2,5-diyl, or pyridazine-3,6-diyl, 1 of the H atoms of which may be replaced by halogen or CN. An antiferroelec. liquid-crystal composition having the threshold voltage lowered at the time of transition from the antiferroelec. to the ferroelec. phase accompanying application of an elec. field in the antiferroelec. phase is provided, and a light-switching element which has good contrast and can effect a tristable switching is obtained using the above composition

IT 152627-78-6
 RL: USES (Uses)
 (antiferroelec. liquid crystal, for light-switching elements)

RN 152627-78-6 CAPLUS

CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(octyloxy)-, 4-[[1-(methylheptyl)oxy]carbonyl]phenyl ester, mixt. with 2-[4-(decyloxy)phenyl]-5-(heptyloxy)pyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 121554-55-0
 CMF C27 H42 N2 O2



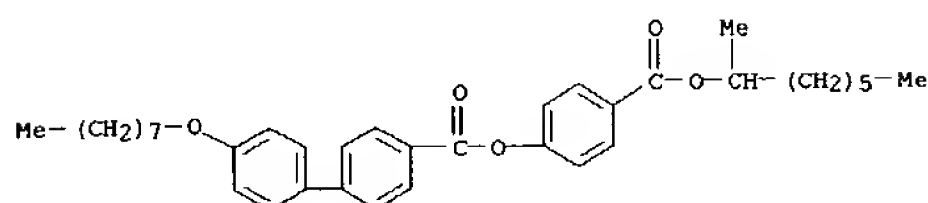
09/835,523

9/811, 359

L9 ANSWER 544 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 2

CRN 103376-72-3
CHF C36 H46 O5

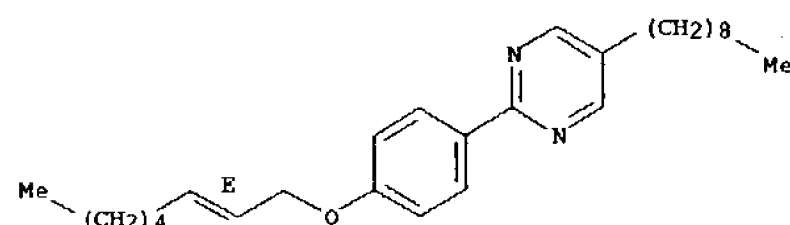


L9 ANSWER 546 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:42442 CAPLUS
DOCUMENT NUMBER: 120:42442
TITLE: Liquid-crystal transition temperatures and physical properties of some new alkenyl-substituted phenylpyrimidine and phenylpyridine esters
AUTHOR(S): Kelly, Stephen M.; Fuenfschilling, Juerg
CORPORATE SOURCE: Dep. RLCR, F. Hoffmann-La Roche Inc., Basel, CH-4002, Switz.
SOURCE: Journal of Materials Chemistry (1993), 3(9), 953-63
CODEN: JMACEP; ISSN: 0959-9428
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors have introduced a C-C double bond into the 4-(5-n-alkylpyrimidin-2-yl)phenyl alkenoates and the 4-(5-n-alkyl-2-pyridyl)phenyl alkenoates to produce the corresponding alkenoates. The position and nature (E/Z) of the double bond were varied systematically and the effect on the liquid-crystal transition temps. was studied. The new alkenoates exhibit nematic and (primarily highly ordered) smectic phases. A smectic C phase is only observed for a limited number of homologs. The alkenoates with a trans double bond in the 2-position possess broad nematic phases at elevated temps. as well as a variety of smectic phases at lower temps. In admixt. with a chiral smectic C base mixture, some of the (E)-alk-2-enoates can induce a substantial increase in the chiral smectic C and nematic transition temps. The temperature of crystallization is not affected adversely. Thus, the temperature range of the chiral smectic C mesophase can be significantly increased. The (E) alk-2-enoates can also be used to induce a chiral nematic phase in chiral smectic C mixts. (which do not possess 1), while at the same time increasing the temperature range of the chiral smectic C phase.

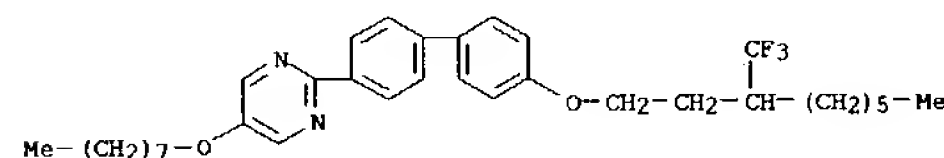
IT 150869-84-4
RL: PRP (Properties)
(liquid crystal properties of)
RN 150869-84-4 CAPLUS
CN Pyrimidine, 5-nonyl-2-[4-(2-octenyloxy)phenyl]-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L9 ANSWER 545 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:66297 CAPLUS
DOCUMENT NUMBER: 120:66297
TITLE: New ferroelectric liquid crystals having a trifluoromethyl group at the asymmetric center and a three-ring heterocyclic core
AUTHOR(S): Sakaigawa, Akira; Imamura, Shinichi; Nohira, Hiroyuki
CORPORATE SOURCE: Fac. Eng., Saitama Univ., Urawa, 338, Japan
SOURCE: Liquid Crystals (1993), 15(6), 893-8
CODEN: LICRE6; ISSN: 0267-8292
DOCUMENT TYPE: Journal
LANGUAGE: English

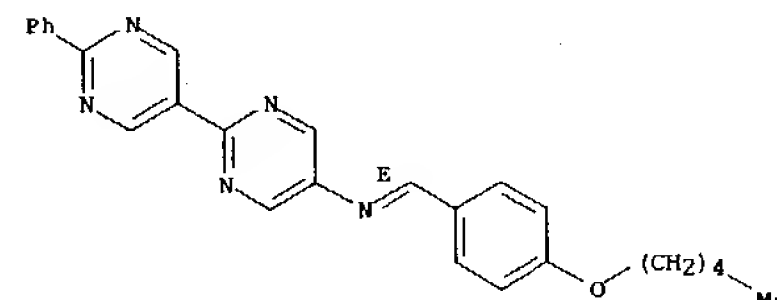
AB New ferroelec. liquid crystals with a trifluoromethyl group at the asym. center and a 3-ring heterocyclic core were synthesized. These compds. possessed a large spontaneous polarization and exhibited a SC* phase over a wide temperature range. Their properties were largely affected by the structure of the spacer group and the core part.
IT 152243-48-6P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(liquid crystal, preparation and ferroelec. and transition properties of)
RN 152243-48-6 CAPLUS
CN Pyrimidine, 5-(octyloxy)-2-[4'-[[3-(trifluoromethyl)nonyl]oxy][1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



L9 ANSWER 547 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:42432 CAPLUS
DOCUMENT NUMBER: 120:42432
TITLE: Synthesis of isomeric aminophenylbipyrimidines and study of liquid crystalline properties of structurally related aminophenylpyrimidine anils
AUTHOR(S): Mikhaleva, M. A.; Igonina, G. A.; Shadrina, A. I.; Boronik, V. P.
CORPORATE SOURCE: Novosib. Inst. Org. Khim., Novosibirsk, 630090, Russia
SOURCE: Khimiya Geterotsiklicheskih Soedinenii (1993), (4), 509-13
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The preparation is described of 5-amino-2,5'-bipyrimidine, bis-(5-aminopyrimidinyl-2)-p-phenylene and isomeric bis(p-aminophenyl)pyrimidine. Benzidine derivs. were prepared and their liquid-crystal properties were determined.
IT 152037-67-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(liquid crystal, preparation of)
RN 152037-67-7 CAPLUS
CN [2,5'-Bipyrimidin]-5-amine, N-[[4-(pentyloxy)phenyl]methylene]-2'-phenyl-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



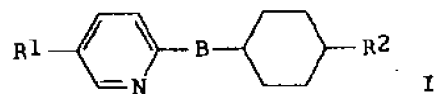
9/811, 359

09/835,523

L9 ANSWER 548 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:42054 CAPLUS
DOCUMENT NUMBER: 120:42054
TITLE: Liquid-crystal composition containing cyclohexylphenyl derivative
INVENTOR(S): Nigorikawa, Kazunori; Onaka, Takami
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05009474 | A2 | 19930119 | JP 1991-161501 | 19910702 |

PRIORITY APPLN. INFO.: JP 1991-161501 19910702
GI



AB The title liquid-crystal composition comprises a cyclohexylphenyl derivative I [B
1,4-phenylene; R1,2 = C1-20 (un)substituted alkyl] and an optically active compound. The ferroelec. liquid-crystal composition ensures high display quality.

IT 151864-06-1

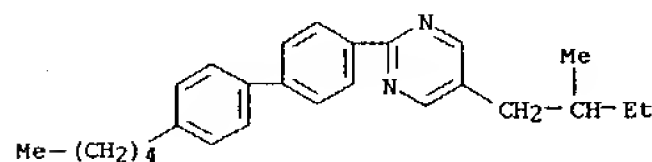
RL: USES (Uses)
(ferroelec. liquid-crystal composition)

RN 151864-06-1 CAPLUS

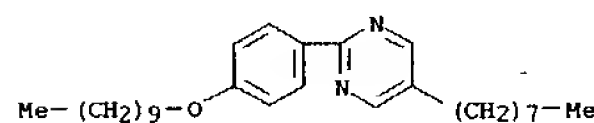
CN Pyrimidine, 5-decyl-2-[4-(decyloxy)phenyl]-, mixt. with
2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 2-[4-[(2-fluorooctyl)oxy]phenyl]-
5-octylpyrimidine, 5-(2-methylbutyl)-2-(4'-pentyl[1,1'-biphenyl]-4-
yl)pyrimidine, 2-[4-(nonyloxy)phenyl]-5-octylpyrimidine,
5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and trans-2-(octyloxy)-5-[4-(4-
pentylcyclohexyl)phenyl]pyridine (9CI) (CA INDEX NAME)

CM 1

CRN 151864-05-0
CMF C26 H32 N2

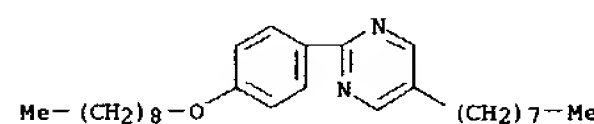


L9 ANSWER 548 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



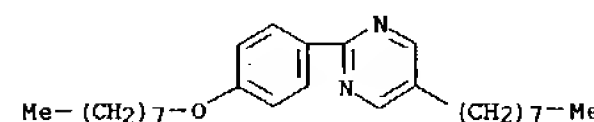
CM 6

CRN 57202-51-4
CMF C27 H42 N2 O



CM 7

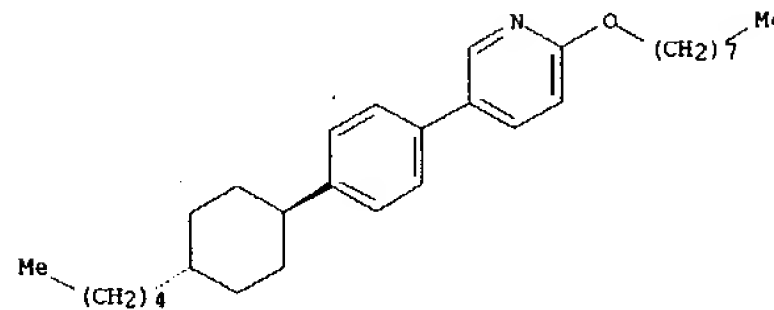
CRN 57202-50-3
CMF C26 H40 N2 O



L9 ANSWER 548 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 2

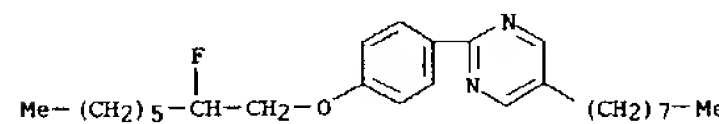
CRN 151864-04-9
CMF C30 H45 N O

Relative stereochemistry.



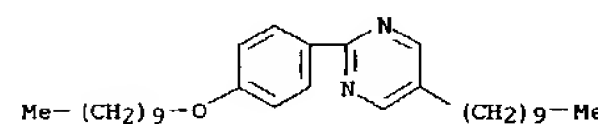
CM 3

CRN 116528-86-0
CMF C26 H39 F N2 O



CM 4

CRN 57202-63-8
CMF C30 H48 N2 O



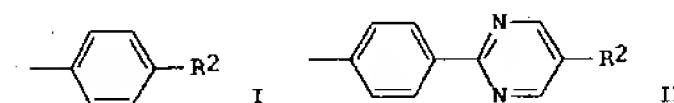
CM 5

CRN 57202-52-5
CMF C28 H44 N2 O

L9 ANSWER 549 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:42051 CAPLUS
DOCUMENT NUMBER: 120:42051
TITLE: Liquid-crystal composition with quick electric response
INVENTOR(S): Ido, Motohisa; Yuasa, Koyo
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKKXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 04366197 | A2 | 19921218 | JP 1991-166154 | 19910612 |

PRIORITY APPLN. INFO.: JP 1991-166154 19910612
GI



AB The title liquid-crystal composition comprises CH2=CH(CH2)1-
2CH(O(CH2)mOR1)(CH2)mOR1n-2CH=CH2 [1, n = 2-5; R1 = p-C6H4Q1, p-C6H4CO2Q1,
p-C6H4CO2-p-C6H4Q1, p-C6H4-p-C6H4CO2Q1, Q2, p-C6H4CO2Q2, p-C6H4Q2 (R2 =
CO2R3, OR3, OCOR3; R3 = (CH2)a(CHR4)bCHR5(CH2)dCH2; R4,5 = Me, halogen; Q1
= I; Q2 = II; a, d = 0-10; b = 0, 1)] and a low-mol.-weight liquid-crystal compound

IT 152042-38-1

RL: USES (Uses)
(liquid-crystal composition, with quick elec. response)

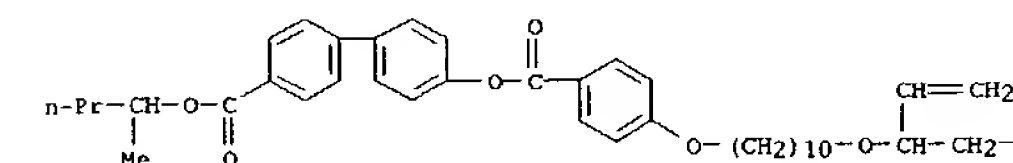
RN 152042-38-1 CAPLUS

CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-[[4-[[10-[[1-ethenyl-3-
butenyl]oxy]decyl]oxy]benzoyl]oxy]-, 1-methylbutyl ester, (S)-, mixt. with
5-nonyl-2-[4-(nonyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1

CRN 150664-14-5
CMF C41 H52 O6

PAGE 1-A



9/8/11, 359

09/ 835,523

L9 ANSWER 549 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

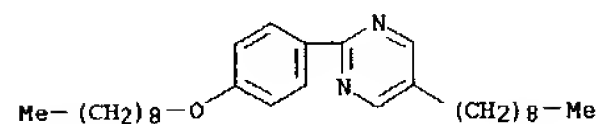
PAGE 1-B

—CH=CH₂

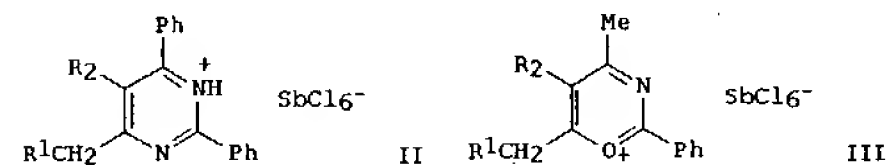
CM 2

CRN 99895-85-9

CMF C28 H44 N2 O



L9 ANSWER 550 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:30736 CAPLUS
 DOCUMENT NUMBER: 120:30736
 TITLE: Electrophilic reactions of carbonyl compounds and their derivatives. V. Reaction of vinyl chlorides with nitrilium salts
 AUTHOR(S): Luk'yanov, S. M.; Borodaev, S. V.; Zubkova, O. V.
 CORPORATE SOURCE: Rostov. Gos. Univ., Rostov-on-Don, Russia
 SOURCE: Zhurnal Organicheskoi Khimii (1992), 28(12), 2577-81
 CODEN: ZORKAE; ISSN: 0514-7492
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 OTHER SOURCE(S): CASREACT 120:30736
 GI

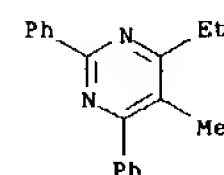


AB Reaction of R1CH2C(Cl):CHR2 [I; R1 = R2 = Me; R1R2 = (CH2)3] with PhCN and Me3CCl and SbCl5 gave 51-53% pyrimidinium salts II (same R1, R2). Similar reaction of I with PhCN, AcCl, and SbCl5 gave 48-49% azapyrylium salts III.
 IT 151736-06-OP
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with hydroxide)
 RN 151736-06-0 CAPLUS
 CN Antimonate(1-), hexachloro-, (OC-6-11)-, hydrogen, compd. with 4-ethyl-5-methyl-2,6-diphenylpyrimidine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 120537-60-2

CMF C19 H18 N2

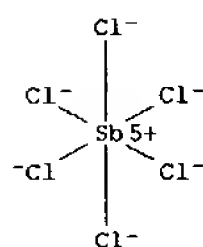


CM 2

CRN 16941-91-6

L9 ANSWER 550 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

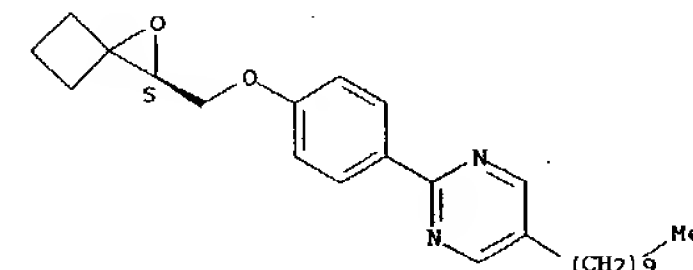
CMF C16 Sb . H
 CCI CCS



● H⁺

L9 ANSWER 551 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1994:21079 CAPLUS
 DOCUMENT NUMBER: 120:21079
 TITLE: Chiral spiro-connected 2,3,3-trisubstituted oxiranes: new dopants for induced ferroelectric phases
 AUTHOR(S): Scherowsky, G.; Lotz, A.
 CORPORATE SOURCE: Inst. Org. Chem., Tech. Univ. Berlin, Berlin, D-1000/12, Germany
 SOURCE: Liquid Crystals (1993), 14(3), 733-9
 CODEN: LICRE6; ISSN: 0267-8292
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis, phase behavior and spontaneous polarization of a new class of chiral dopants for induced ferroelec. phases of general structure A and B, possessing a 2,3,3-trisubstituted oxirane ring spiro-connected with 4-, 5- or 6-membered carbocycles are described. In a series of these compds. with the same mesogenic building blocks the one with the 5-membered carbocycle exhibits the highest induced spontaneous polarization. Introduction of a carbonyl group adjacent to the oxirane ring leads to an increased induced spontaneous polarization. The sign of the helical twisting power is pos. for compds. with a cyclobutane ring and neg. for those with a cyclopentane or a cyclohexane ring, although the absolute configuration at the chiral C is the same for all compds.
 IT 151586-64-OP
 RL: PREP (Preparation)
 (preparation of, as dopant for induced ferroelec. phase)
 RN 151586-64-0 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-(1-oxaspiro[2.3]hex-2-ylmethoxy)phenyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



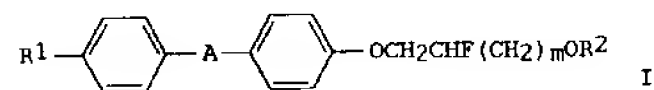
9/811, 359

09/835,523

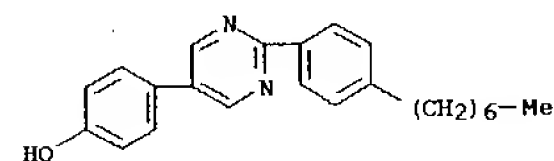
L9 ANSWER 552 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:682399 CAPLUS
DOCUMENT NUMBER: 119:282399
TITLE: Preparation of optically-active [4-(2-fluoro-m-alkoxyalkoxy)phenyl]phenylpyrimidines and liquid-crystal compositions containing same
INVENTOR(S): Ishizuka, Takahiro; Minami, Kazumori
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05163247 | A2 | 19930629 | JP 1991-330796 | 19911213 |
| PRIORITY APPLN. INFO.: | | | JP 1991-330796 | 19911213 |

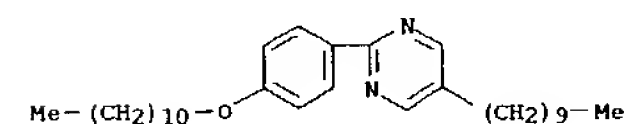
GI



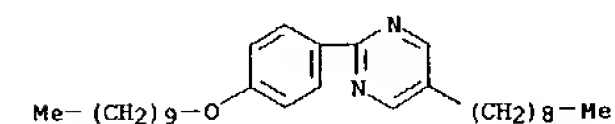
AB The title optically-active compds. I [R1 = linear or branched (halo)alkyl, (halo)alkoxy, in which 1 CH2 or ≥ 2 non-neighboring CH2 may be O-, S-, CO-substituted; R2 = (un)substituted alkyl; A = pyrimidine ring; m = 4-11] and liquid-crystal compns. containing I are claimed. Addition of I to smectic C liquid-crystal compns. provides ferroelec. chiral smectic C liquid-crystal compns. with high-speed response useful for display devices.
IT 151360-42-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification of, with fluoroalkoxyalkyl tosylates, chiral smectic C liquid crystals from)
RN 151360-42-8 CAPLUS
CN Phenol, 4-[2-(4-heptylphenyl)-5-pyrimidinyl]- (9CI) (CA INDEX NAME)



L9 ANSWER 553 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
RL: TEM (Technical or engineered material use); USES (Uses)
(liq. crystal compn.)
RN 151541-72-9 CAPLUS
CN Benzoic acid, 4-[[4-(dodecyloxy)benzoyl]oxy]-2-fluoro-, octyl ester, mixt. with 5-decyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(decyloxy)phenyl]-5-nonylpyrimidine, 5-decyl-2-[4-(undecyloxy)phenyl]pyrimidine, (R)-5-dodecyl-2-[4-[(3-fluoroheptyl)oxy]phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine, 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(undecyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)
CM 1
CRN 146332-78-7
CMF C31 H50 N2 O

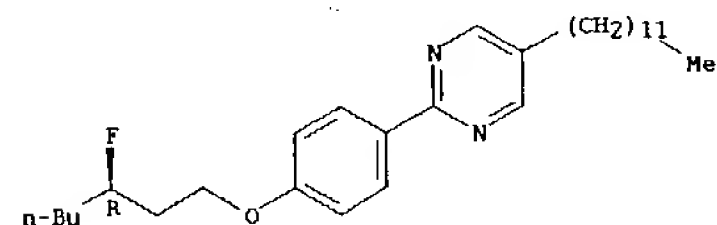


CM 2
CRN 144806-56-4
CMF C29 H46 N2 O



CM 3
CRN 141623-22-5
CMF C29 H45 F N2 O

Absolute stereochemistry.

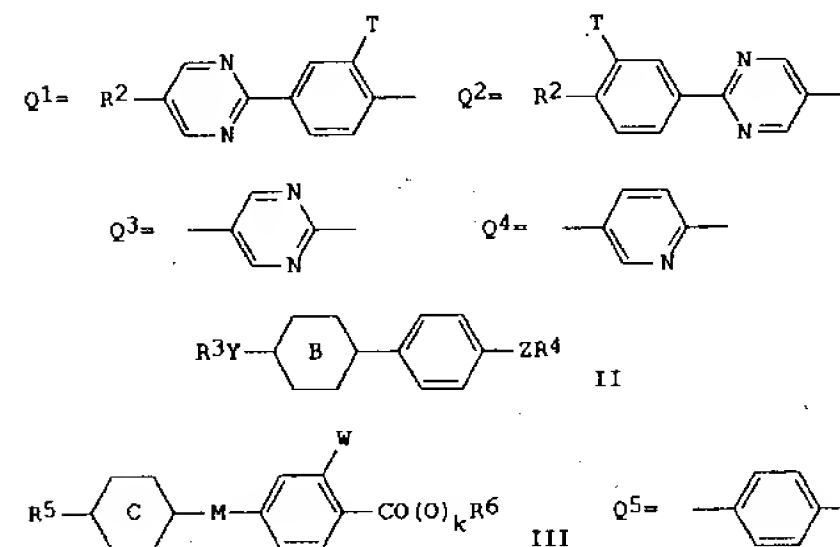


CM 4
CRN 141623-20-3
CMF C34 H49 F O5

L9 ANSWER 553 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:682366 CAPLUS
DOCUMENT NUMBER: 119:282366
TITLE: Ferroelectric liquid crystal composition
INVENTOR(S): Yagi, Misao; Kondo, Hitoshi; Tadokoro, Mika; Konuma, Hiroko; Sugiyama, Hiroshi; Hagiwara, Toshimitsu
PATENT ASSIGNEE(S): Takasago Perfumery Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKOXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

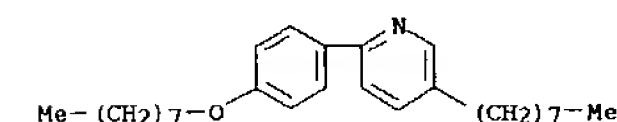
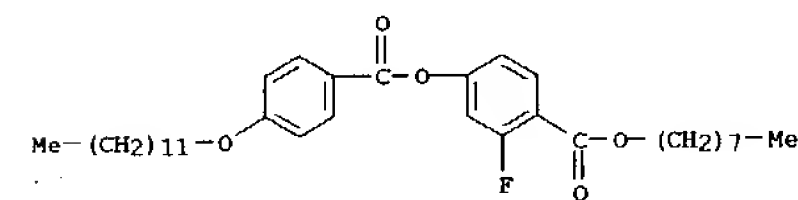
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| JP 05017775 | A2 | 19930126 | JP 1991-299504 | 19911021 |
| JP 2981324 | B2 | 19991122 | | |
| US 5454976 | A | 19951003 | US 1994-237902 | 19940504 |
| PRIORITY APPLN. INFO.: | | | JP 1990-281993 | A1 19901022 |
| | | | JP 1990-281991 | A 19901022 |
| | | | JP 1990-281992 | A 19901022 |
| | | | US 1991-780105 | B1 19911021 |

GI

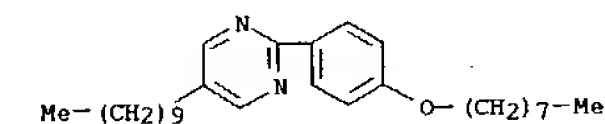


AB The title composition contains 2 to 30 mol% AO(CH2)nC*FH(CH2)m(C*XH)1R1 (I), 55 to 80 mol% II, and 2 to 15 mol% III. For I, A = Q1, Q2; R2 = C8-C12 alkyl; T = H, F; R1 = C2-C8 alkyl; X = F, Me; n = 1 or 2; m = 0-3; l = 0 or 1; C* = asym. C. For II, B = Q3, Q4; R3, R4 = C6-C14 alkyl; Y, Z = single bond, O. For III, ring C = Q5, Q3; R5 = C6-C14 alkyl, alkoxy; R6 = C6-C14 alkyl which may have asym. carbon; M = single bond, CO2; W = H, F; k = 0 or 1. The title composition shows high contrast.
IT 151541-72-9

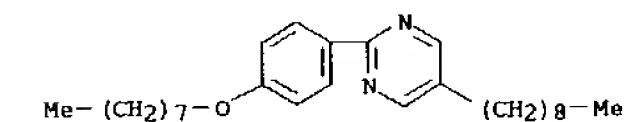
L9 ANSWER 553 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
CM 5
CRN 107215-61-2
CMF C27 H41 N O



CM 6
CRN 57202-62-7
CMF C28 H44 N2 O



CM 7
CRN 57202-58-1
CMF C27 H42 N2 O

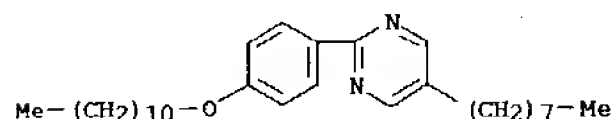


CM 8
CRN 57202-53-6
CMF C29 H46 N2 O

9/811, 359

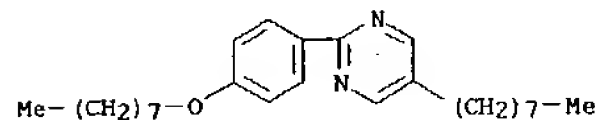
09/ 835, 523

L9 ANSWER 553 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 9

CRN 57202-50-3
CMF C26 H40 N2 O

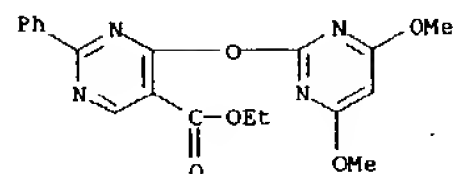


L9 ANSWER 554 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:671189 CAPLUS
DOCUMENT NUMBER: 119:271189
TITLE: Preparation of pyrimidine or triazine derivatives as herbicides
INVENTOR(S): Miyazaki, Masahiro; Matsuzawa, Masafumi; Yoshimura, Takumi; Shimizu, Kuniaki; Tachikawa, Shigehiko
PATENT ASSIGNEE(S): Kumiai Chemical Industry Co., Ltd., Japan; Ihara Chemical Industry Co., Ltd.
SOURCE: PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9313078 | A1 | 19930708 | WO 1992-JP1690 | 19921224 |
| W: US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| JP 05345780 | A2 | 19931227 | JP 1991-355688 | 19911224 |
| EP 581960 | A1 | 19940209 | EP 1993-900385 | 19921224 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| US 5527763 | A | 19960618 | US 1993-107716 | 19931208 |
| PRIORITY APPLN. INFO.: | | | JP 1991-355688 | 19911224 |
| | | | WO 1992-JP1690 | 19921224 |

OTHER SOURCE(S): MARPAT 119:271189
GI For diagram(s), see printed CA Issue.
AB The title compds. [I: ring A = Q - Q3, etc.; wherein Z1 = O, S, (un)substituted NH; Z2 = O, S; X = H, (halo)alkyl, (halo)alkoxy, alkenyl, (un)substituted Ph, CH2Ph, OCH2Ph, PhO, PhCO, or NH2, halo, NO2, CO2H, cyano, (alkyl)carbonyl, etc.; n = 1-5; R = H, OH, imidazolyl, alkoxy, alkenyloxy, alkynyl, alkenyloxy, alkylthio, cycloalkyl, (un)substituted PhCH2O, PhCH2S, PhO, PhSO2NH, or NH2, cycloalkylthio, alkoxyalkoxy, furyloxy, aralkyloxy, etc.; R1, R2 = H (both R1 = R2 ≠ H), halo, (halo)alkyl, (halo)alkoxy, alkylthio, (un)substituted PhO or NH2, alkoxyalkyl, cycloalkyl, alkenyl, alkenyl, alkenyloxy, etc.; Z = N, CH; W = O, S, (un)substituted NH] are prepared. Thus, Me 3-hydroxybenzofuran-2-carboxylate 26.0, 4,6-dimethoxy-2-fluoropyrimidine 28.9, and K2CO3 43.4 mmol were stirred in 100 mL DMF at 80-100° for 30 min to give 41.9% Me 3-(4,6-dimethoxypyrimidin-2-yl)benzofuran-2-carboxylate (II). II at 400 g/10 are preemergence controlled ≥90% Echinochloa crus-galli, Monochoria vaginalis, and Scirpus juncoides in submerged paddy field soil. A total of 76 I were prepared
IT 150967-89-8P
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of, as herbicide)
RN 150967-89-8 CAPLUS
CN 5-Pyrimidinecarboxylic acid, 4-[(4,6-dimethoxy-2-pyrimidinyl)oxy]-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)

L9 ANSWER 554 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 555 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:660043 CAPLUS
DOCUMENT NUMBER: 119:260043
TITLE: Preparation of optically active trifluorolactic acid derivative and liquid crystal composition
INVENTOR(S): Fukushima, Masatoshi; Saito, Shinichi
PATENT ASSIGNEE(S): Chisso Corp., Japan
SOURCE: PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

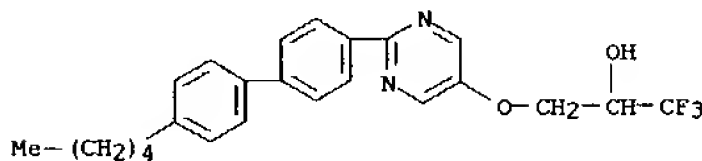
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9220641 | A1 | 19921126 | WO 1992-JP646 | 19920520 |
| W: JP, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE | | | | |
| EP 592669 | A1 | 19940420 | EP 1992-910505 | 19920520 |
| EP 592669 | B1 | 19980128 | | |
| R: CH, DE, FR, GB, LI, SE | | | | |
| US 5665270 | A | 19970909 | US 1994-142292 | 19940504 |
| PRIORITY APPLN. INFO.: | | | JP 1991-114947 | 19910520 |
| | | | JP 1991-212312 | 19910823 |
| | | | JP 1991-256573 | 19911003 |
| | | | WO 1992-JP646 | 19920520 |

OTHER SOURCE(S): MARPAT 119:260043
AB R1A-v-B-w-C-x-C*H(CF3)-y-R2 (R1 = C1-18 alkyl, alkoxy, C2-18 alkanoyl, alkanoyloxy, alkoxycarbonyl; R2 = (alkoxy-substituted) alkyl; A, B, C = 1,4-phenylene, 1,4-cyclohexylene, pyridine-2,5-diyl, pyrimidine-2,5-diyl, pyrazine-2,5-diyl, pyridazine-3,6-diyl, 1,3,4-thiadiazole-2,5-diyl, etc.; v,w = CO2, O2C, CH2O, OCH2, CH2CH2, CH:CH, C.tplbond.C, single bond; x, y = a combination of OCH2 and O, OCH2 and O2C, OCH2 and OCO2, O2C and O, etc.) and their intermediates are prepared from optically active 3,3,3-trifluorolactic acid. A liquid crystal composition, particularly a chiral smectic or nematic liquid crystal composition, contains at least I. An optical switching device uses the above liquid crystal composition. Some of I show very large spontaneous polarization and/or ferroelec. liquid crystal phase by themselves or induce sufficient spontaneous polarization even though I themselves do not show ferroelec. liquid crystal phase, thereby a liquid crystal composition containing I shortens response time and provides an animation display. Some of I show antiferroelec. liquid crystal phase at a broader temperature range compared to the known liquid crystals such as MHPOBC and TFMHPOBC. A total of 25 I were prepared and 2 liquid crystal compns. containing I were given.
IT 150634-34-7P
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, as intermediate for trifluorolactic acid ester liquid crystal)
RN 150634-34-7 CAPLUS
CN 2-Propanol, 1,1,1-trifluoro-3-[[2-(4'-pentyl[1,1'-biphenyl]-4-yl)-5-pyrimidinyl]oxy]- (9CI) (CA INDEX NAME)

09/ 835,523

9/811,359

L9 ANSWER 555 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



L9 ANSWER 556 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:659694 CAPLUS
 DOCUMENT NUMBER: 119:259694
 TITLE: Preparation of optically-active fluoro compounds and ferroelectric liquid-crystal compositions containing them
 INVENTOR(S): Ishizuka, Takahiro; Minami, Kazumori
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05155883 | A2 | 19930622 | JP 1991-322955 | 19911206 |
| PRIORITY APPLN. INFO.: | | | JP 1991-322955 | 19911206 |

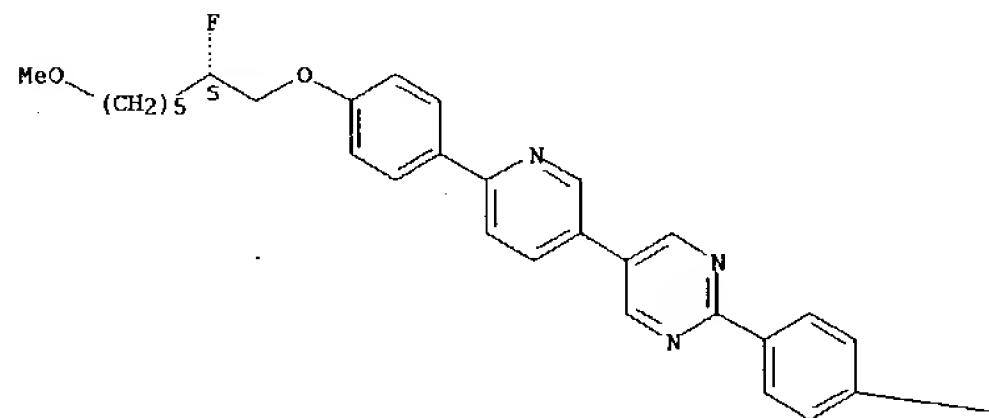
AB R1XYZOCH2CHF(CH2)mOR2 [I; R1 = linear or branched (halo)alkyl, alkoxy, in which ≥ 1 non-neighboring CH2 may be O-, S-, CO-substituted; R2 = (un)substituted alkyl; X, Y, Z = aromatic ring, alicyclic ring, pyrimidine, pyridine, which may be substituted with halo, cyano, etc.; ≥ 1 of X, Y, and Z is pyrimidine and ≥ 1 of X, Y, and Z is pyridine; m = 4-11], and liquid-crystal compns. containing I are claimed. I are added to smectic C liquid-crystal compns. to give chiral smectic C liquid-crystal compns. for display devices.

IT 151360-39-3P
 RL: PREP (Preparation)
 (preparation of, as chiral smectic C liquid crystal)

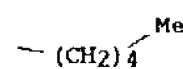
RN 151360-39-3 CAPLUS
 CN Pyrimidine, 5-[6-[4-[(2-fluoro-7-methoxyheptyl)oxy]phenyl]-3-pyridinyl]-2-(4-pentylphenyl)-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



L9 ANSWER 556 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 PAGE 1-B

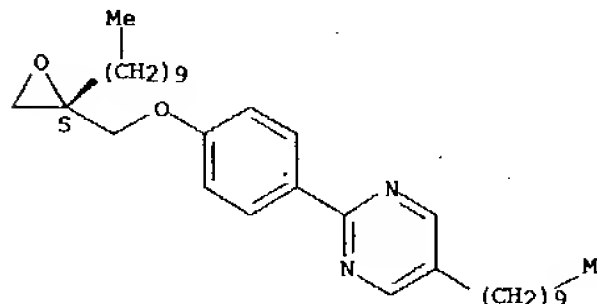


L9 ANSWER 557 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:638377 CAPLUS
 DOCUMENT NUMBER: 119:238377
 TITLE: Chiral 2,2-disubstituted oxirane ethers and carboxylic esters: new ferroelectric liquid crystals and dopants for induced ferroelectric phases
 AUTHOR(S): Scherowsky, G.; Lotz, A.
 CORPORATE SOURCE: Inst. Org. Chem., Tech. Univ. Berlin, Berlin, D-1000, Germany
 SOURCE: Liquid Crystals (1993), 14(5), 1295-302
 CODEN: LICRE6; ISSN: 0267-8292
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis, phase behavior and spontaneous polarization of a new class of chiral LCs and chiral dopants for induced ferroelec. phases of general structure A, possessing a (2S)-2-hydroxymethyloxirane unit, and B, possessing a (2R)-2-oxirane carboxylic acid unit connected to mesogenic building blocks are described. One of these new compds. exhibits a Sc* phase. A carbonyl group adjacent to the oxirane ring does not increase the spontaneous polarization which is in contrast to the results obtained for 2,3-disubstituted oxiranes. A comparison with analogous species containing a (2S)-2-hydroxymethyloxetane, a (2R)-hydroxymethylthiirane or a (2S,3R)-2-hydroxymethyloxirane unit is given.

IT 151074-69-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and ferroelectricity of)

RN 151074-69-0 CAPLUS
 CN Pyrimidine, 5-decyl-2-[4-[(2-decyloxiranyl)methoxy]phenyl]-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

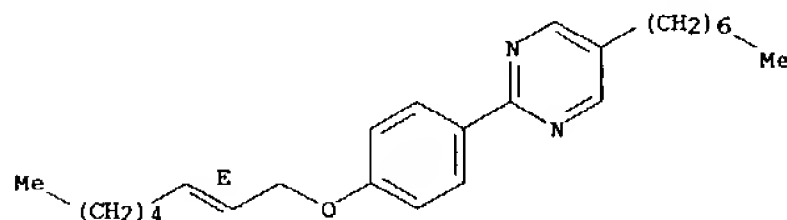


09/835,523

9/811,359

L9 ANSWER 558 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:638374 CAPLUS
 DOCUMENT NUMBER: 119:238374
 TITLE: The influence of double bonds in the terminal chain of 2-ring compounds on the physical properties of SC* mixtures
 AUTHOR(S): Fuenfschilling, J.; Kelly, S. M.; Villiger, A.
 CORPORATE SOURCE: Dep. RLCR, F. Hoffmann-La Roche Inc., Basel, CH-4002, Switz.
 SOURCE: Liquid Crystals (1993), 14(3), 713-25
 CODEN: LICRE6; ISSN: 0267-8292
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The properties of SC* mixts. containing new 2-ring 5-alkyl-2-(4-alkenyloxyphenyl)pyridines and pyrimidines with systematically varying positions and configurations of the double bond are presented. Trans configurations at odd positions (counting the number of atoms from the core including the O and the first C atom of the double bond) suppress the SA phase, increase the SC* tilt angle, θ , and the spontaneous polarization, PS, and lead to long switching times τ . Cis configurations at even positions suppress the nematic phase in favor of smectic phases, decrease θ and PS, and shorten τ . Other positional configurational combinations strongly reduce the clearing point. Furthermore, the results indicate that the preferred conformation of the alkenyloxy chain consists of alternating cis and trans units.
 IT 150869-77-5
 RL: PRP (Properties)
 (liquid crystal mixts. containing, phase behavior and spontaneous polarization and switching times of)
 RN 150869-77-5 CAPLUS
 CN Pyrimidine, 5-heptyl-2-[4-(2-octenyloxy)phenyl]-, (E)- (9CI) (CA INDEX NAME)

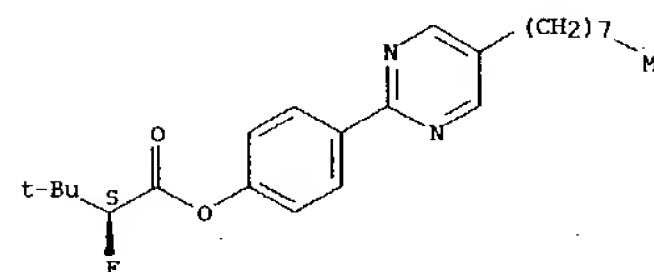
Double bond geometry as shown.



L9 ANSWER 559 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:638091 CAPLUS
 DOCUMENT NUMBER: 119:238091
 TITLE: Preparation of optically active fluorine-containing ester compounds and liquid crystal compositions containing them
 INVENTOR(S): Shimazaki, Masato; Ichihashi, Mitsuyoshi
 PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

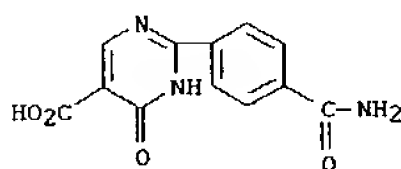
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| JP 05163204 | A2 | 19930629 | JP 1991-330797 | 19911213 |
| PRIORITY APPLN. INFO.: | | | JP 1991-330797 | 19911213 |
| AB Optically active R2CMe2CHFCO2(Z)nYXR1 [I; R1 = C1-20 linear or branched (un)substituted alkyl, alkoxy, in which 1 or non-neighboring ≥ 2 CH2 may be replaced with O, S, CO; R2 = C1-20 linear or branched (un)substituted alkyl; X, Y, Z = arylene, cyclohexylene, heterocyclene; n = 0, 1] and liquid crystal compns. containing I are claimed. Addition of I to smectic C liquid crystals provides chiral smectic C liquid crystal compns. with high-speed response useful for display devices. IT 151028-53-4P RL: PREP (Preparation) (preparation of, as liquid crystal for chiral smectic C compns.) RN 151028-53-4 CAPLUS CN Butanoic acid, 2-fluoro-3,3-dimethyl-, 4-(5-octyl-2-pyrimidinyl)phenyl ester, (S)- (9CI) (CA INDEX NAME) | | | | |

Absolute stereochemistry.

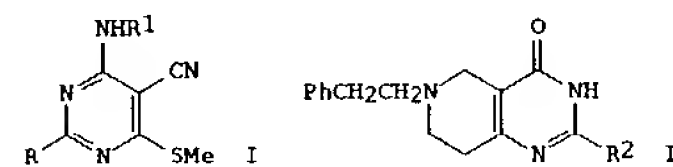


L9 ANSWER 560 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:625966 CAPLUS
 DOCUMENT NUMBER: 119:225966
 TITLE: Preparative and biological activity of aryl substituted nitrogen containing heterocycles
 INVENTOR(S): Linz, Guenter; Pieper, Helmut; Himmelsbach, Frank; Austel, Volkhard; Mueller, Thomas; Weisenberger, Johannes; Seewaldt-Becker, Elke
 PATENT ASSIGNEE(S): Thomae, Dr. Karl, G.m.b.H., Germany
 SOURCE: Eur. Pat. Appl., 47 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

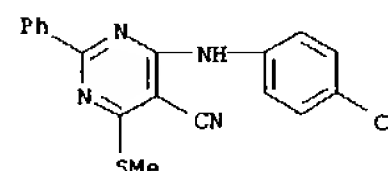
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| EP 537696 | A1 | 19930421 | EP 1992-117507 | 19921014 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE | | | | |
| DE 4134467 | A1 | 19930422 | DE 1991-4134467 | 19911018 |
| US 5418233 | A | 19950523 | US 1992-961135 | 19921014 |
| CA 2080748 | AA | 19930419 | CA 1992-2080748 | 19921016 |
| NO 9204027 | A | 19930419 | NO 1992-4027 | 19921016 |
| AU 9227062 | A1 | 19930422 | AU 1992-27062 | 19921016 |
| AU 662930 | B2 | 19950921 | | |
| HU 62272 | A2 | 19930428 | HU 1992-3264 | 19921016 |
| JP 05221992 | A2 | 19930831 | JP 1992-277578 | 19921016 |
| ZA 9207994 | A | 19940418 | ZA 1992-7994 | 19921016 |
| US 5563268 | A | 19961008 | US 1995-375084 | 19950119 |
| PRIORITY APPLN. INFO.: | | | DE 1991-4134467 | 19911018 |
| | | | US 1992-961135 | 19921014 |
| OTHER SOURCE(S): MARPAT 119:225966 AB The preparation of title compds. with fibrinogen-binding, thromboxane, and blood platelet aggregation inhibitor activity is claimed. Thus, reaction of 6-(4-aminophenyl)-4-[[4-(methoxycarbonyl)butyl]aminocarbonyl]-2-methyl-(2H)-pyridazin-3-one (preparation given) with LiOH.H2O in a mixture of THF-H2O gave 91.1 6-(4-aminophenyl)-4-[[4-(carboxybutyl)aminocarbonyl]-2-methyl-(2H)-pyridazin-3-one. Similarly, a number of pyridazinone and pyrimidine derivs. were prepared and their biol. activity is described. IT 150594-32-4P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, in preparation of thromboxane formation inhibitor) RN 150594-32-4 CAPLUS CN 5-Pyrimidinecarboxylic acid, 2-[4-(aminocarbonyl)phenyl]-1,4-dihydro-4-oxo- (9CI) (CA INDEX NAME) | | | | |



L9 ANSWER 561 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:625911 CAPLUS
 DOCUMENT NUMBER: 119:225911
 TITLE: Chemotherapeutic agents. Part XXIII. Synthesis of π -deficient pyrimidines and fused pyrimidines as leishmanicides
 AUTHOR(S): Ram, Vishnu J.; Haque, Navedul; Nath, Mahendra
 CORPORATE SOURCE: Med. Chem. Div., Cent. Drug Res. Inst., Lucknow, 226 001, India
 SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1993), 32B(7), 754-9
 CODEN: IJ5BDB; ISSN: 0376-4699
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Various π -deficient pyrimidines, e.g., I (R = Me, Ph, 4-pyridyl; R1 = H, aryl) and fused pyrimidines, e.g., II (R2 = 4-pyridyl, morpholino, SCH2Ph) have been synthesized and evaluated for their leishmanicidal activity against L. donovani. None of the compds. showed significant activity.
 IT 150808-02-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 150808-02-9 CAPLUS
 CN 5-Pyrimidinecarbonitrile, 4-[(4-chlorophenyl)amino]-6-(methylthio)-2-phenyl- (9CI) (CA INDEX NAME)



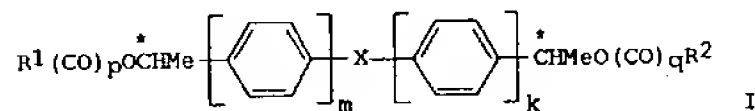
9/811,359

09/ 835,523

L9 ANSWER 562 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:614448 CAPLUS
 DOCUMENT NUMBER: 119:214448
 TITLE: Preparation of optically active aromatic esters and liquid crystal compositions containing them
 INVENTOR(S): Azumai, Takayuki; Toda, Shoji; Minami, Masayoshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 04337384 | A2 | 19921125 | JP 1991-110116 | 19910515 |
| JP 2906729 | B2 | 19990621 | | |

PRIORITY APPLN. INFO.: JP 1991-110116 19910515
 OTHER SOURCE(S): MARPAT 119:214448
 GI



AB The title compds. I (X = CO₂, O₂C; R₁, R₂ = halo, C₁-20 alkyl, C₂-20 alkoxy; m, k, l = 1, 2; p, q = 0, 1; C* denotes an asym. C atom) are prepared. Liquid crystal compns. contain I for use in liquid-crystal display devices. When I are mixed to form chiral smectic C liquid crystal compns., I induce sufficient spontaneous polarization, improve orientation, and provide ferroelec. liquid crystal materials. A total of 6 optically active Ph benzoates were prepared

IT 150742-81-7
 RL: PRP (Properties)
 (liquid crystal composition, for display)

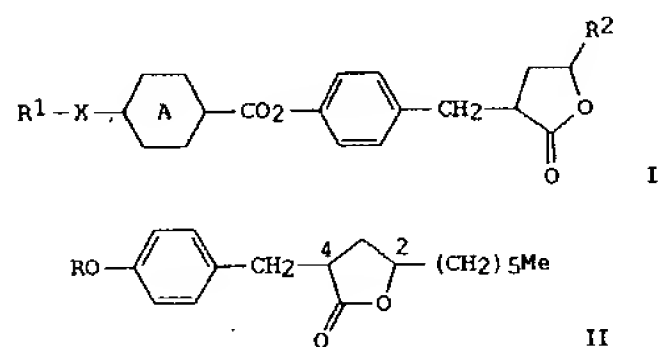
RN 150742-81-7 CAPLUS
 CM Pyrimidine, 5-(decyloxy)-2-[4-(4-methoxy-1-methylbutyl)phenyl]-, mixt.
 with 5-(decyloxy)-2-[4-(5-methoxypentyl)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 150742-80-6
 CMF C26 H40 N2 O2

L9 ANSWER 563 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:614094 CAPLUS
 DOCUMENT NUMBER: 119:214094
 TITLE: Preparation of optically active butyrolactone derivatives and their intermediates and liquid crystal compositions and liquid crystal display devices
 INVENTOR(S): Takehara, Sadao; Oosawa, Masashi; Nakamura, Kayoko; Hyama, Tamejiro; Kusumoto, Tetsuo; Sato, Kenichi; Nakayama, Akiko
 PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan; Sagami Chem Res
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JXXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 05059036 | A2 | 19930309 | JP 1991-213979 | 19910826 |
| | | | JP 1991-213979 | 19910826 |

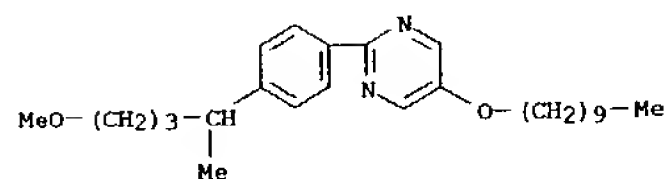
PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 119:214094
 GI



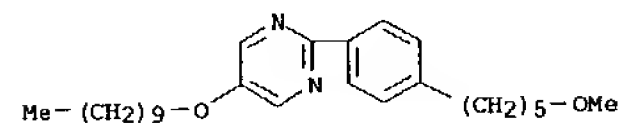
AB The title compds. [I; R₁ = (un)substituted C₁-18 alkyl; X = single bond, O; ring A = (fluoro-substituted) 1,4-phenylene or trans-cyclohexylene; R₂ = C₁-18 alkyl; the 2- and 4-asym. C atoms independently have R or S configuration], useful as chiral dopants which induce large spontaneous polarization in ferroelec. liquid crystal materials and provide high speed response and excellent memory properties, are prepared. Thus, lithiation of 3-(4-methoxyphenyl)propanoic acid with BuLi in hexane-THF followed by cyclocondensation with (R)-1,2-epoxyoctane gave a butyrolactone [(2R,4R)- and (2S,4R)-II; R = Me] in 45% yield which were separated by preparative HPLC and demethylated with AlCl₃ in Me₂S and CH₂Cl₂ to give (2R,4R)- and (2S,4R)-II (R = H) and esterified with 4-octyloxybenzoyl chloride to give (2R,4R)- and (2S,4R)-II (R = 4-octyloxybenzoyl). A liquid crystal composition containing 2% (2R,4R)-II (R = 4-octyloxybenzoyl) and 98% 4-(4-alkoxyphenyl)pyrimidine derivs. showed the chiral smectic C to smectic A phase transition at 49.5°, response speed 305 μs, tilt angle 18.0°, spontaneous polarization 0.56 nC/cm², and good contrast. A total of 6 I and 4 liquid crystal compns. containing I were prepared

IT 150621-88-8
 RL: TEM (Technical or engineered material use); USES (Uses)
 (liquid crystal composition, for display)
 RN 150621-88-8 CAPLUS

L9 ANSWER 562 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



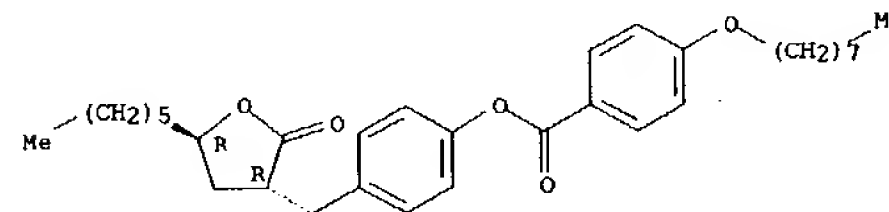
CM 2
 CRN 150742-79-3
 CMF C26 H40 N2 O2



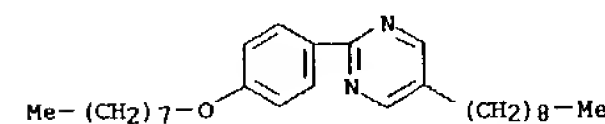
L9 ANSWER 563 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 CM Benzoic acid, 4-(octyloxy)-, 4-[(5-hexyltetrahydro-2-oxo-3-furanyl)methyl]phenyl ester, (3R-trans)-, mixt. with 2-[4-(decyloxy)phenyl]-5-octylpyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-nonyl-2-[4-(octyloxy)phenyl]pyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
 CRN 150186-83-7
 CMF C32 H44 O5

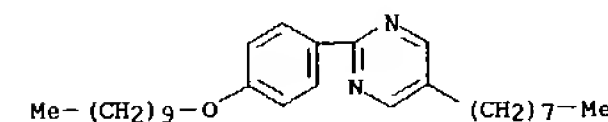
Absolute stereochemistry.



CM 2
 CRN 57202-58-1
 CMF C27 H42 N2 O



CM 3
 CRN 57202-52-5
 CMF C28 H44 N2 O

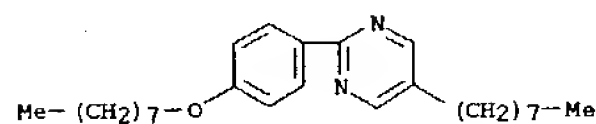


CM 4
 CRN 57202-50-3
 CMF C26 H40 N2 O

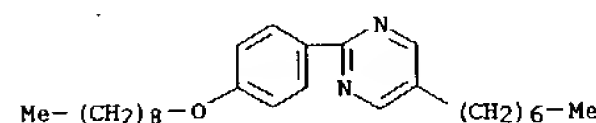
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L9 ANSWER 563 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



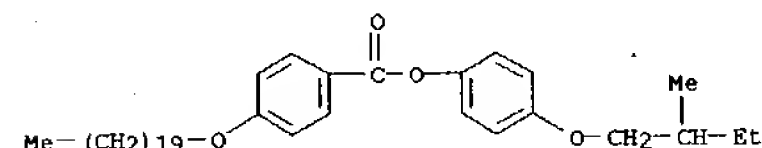
CM 5

CRN 57202-40-1
CMF C26 H40 N2 O

L9 ANSWER 564 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:613742 CAPLUS
DOCUMENT NUMBER: 119:213742
TITLE: Electrooptical material, method of obtaining it, and device for modulation of light
INVENTOR(S): Zhuikov, Vladimir Alexandrovich; Zyryanov, Viktor Yakovlevich; Smorgan, Sergei Leonidovich; Shabanov, Vasily Filippovich
PATENT ASSIGNEE(S): "Sistemy Novykh Tekhnologii" Joint Venture, USSR
SOURCE: PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|----------|
| WO 9307527 | A1 | 19930415 | WO 1991-SU195 | 19911001 |
| W: AU, CA, JP, KR, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE | | | | |
| AU 9191538 | A1 | 19930503 | AU 1991-91538 | 19911001 |
| PRIORITY APPLN. INFO.: WO 1991-SU195 19911001 | | | | |
| AB | Electrooptical materials are described which comprise a liquid ferroelec. material dispersed in a polymer, the smectic layer planes in the ferroelec. material being aligned essentially in parallel to each other; preparation of the materials entails orienting the ferroelec. liquid-crystal mols. while flowing the liquid crystal-polymer mixture Electrooptical modulators employing the materials are described. | | | |
| IT | 150389-15-4 RL: USES (Uses) (polymer-dispersed liquid crystal compns. containing, for electrooptical modulators) | | | |
| RN | 150389-15-4 CAPLUS | | | |
| CN | Benzoic acid, 4-(eicosyloxy)-, 4-(2-methylbutoxy)phenyl ester, mixt. with 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 4'-(hexyloxy)[1,1'-biphenyl]-4-yl 2-chloro-3-methylpentanoate and 4-(2-methylbutoxy)phenyl 4-(octyloxy)benzoate (9CI) (CA INDEX NAME) | | | |

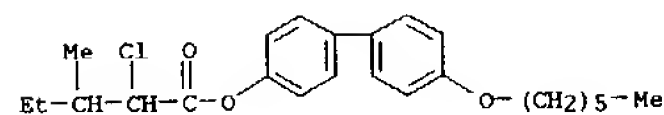
CM 1

CRN 150389-14-3
CMF C38 H60 O4

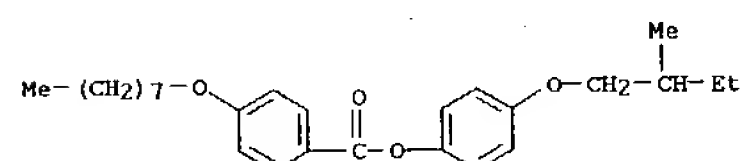
CM 2

CRN 120648-09-1
CMF C24 H31 Cl O3

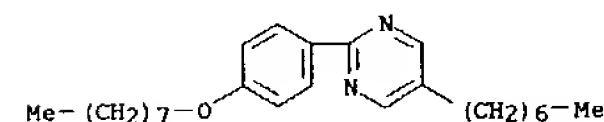
L9 ANSWER 564 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



CM 3

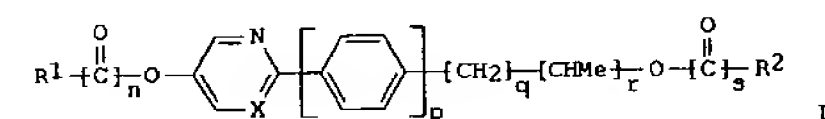
CRN 80883-64-3
CMF C26 H36 O4

CM 4

CRN 57202-39-8
CMF C25 H38 N2 O

L9 ANSWER 565 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:603425 CAPLUS
DOCUMENT NUMBER: 119:203425
TITLE: Preparation and electrooptical property of nitrogen containing heterocycles
INVENTOR(S): Buchecker, Richard; Kelly, Stephen; Schadt, Martin
PATENT ASSIGNEE(S): Hoffmann-La Roche, F., A.-G., Switz.
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

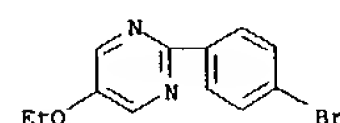
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------|------|----------|-----------------|----------|
| EP 537620 | A1 | 19930421 | EP 1992-117159 | 19921008 |
| EP 537620 | B1 | 19980107 | | |
| R: CH, DE, FR, GB, IT, LI, NL | | | | |
| US 5326497 | A | 19940705 | US 1992-955633 | 19921002 |
| JP 06184111 | A2 | 19940705 | JP 1992-300623 | 19921014 |
| JP 2843217 | B2 | 19990106 | | |
| PRIORITY APPLN. INFO.: CH 1991-3034 19911016 CH 1992-2679 19920828 | | | | |
| OTHER SOURCE(S): MARPAT 119:203425 | | | | |
| GI | | | | |



AB The preparation of title compds. I (R_1 = C5-12 alkyl or alkenyl; R_2 = C1-9 alkyl or alkenyl; X = CH, N; n = 0, 1; q = 2-6; r = 0, 1; s = 0, 1; p = 1, 2) having the electrooptical property with no data is claimed. Thus, reaction of 2-[4-(5-(propyloxy)-1-pentyl)phenyl]-5-hydroxypyrimidine (preparation given) with (Z)-3-octenoic acid in CH_2Cl_2 containing 4-(dimethylamino)pyridine and N,N'-dicyclohexylcarbodiimide followed by basic workup gave 2-[4-(5-(propyloxy)-1-pentyl)phenyl]-5-((Z)-3-octenoyl)oxy)pyrimidine.

IT 150595-67-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparation of pyrimidine derivative containing electrooptical property)

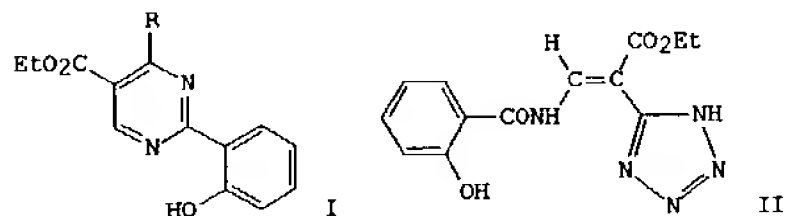
RN 150595-67-8 CAPLUS
CN Pyrimidine, 2-(4-bromophenyl)-5-ethoxy- (9CI) (CA INDEX NAME)



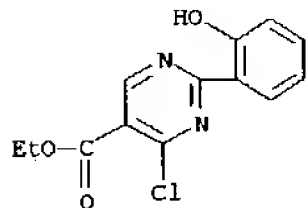
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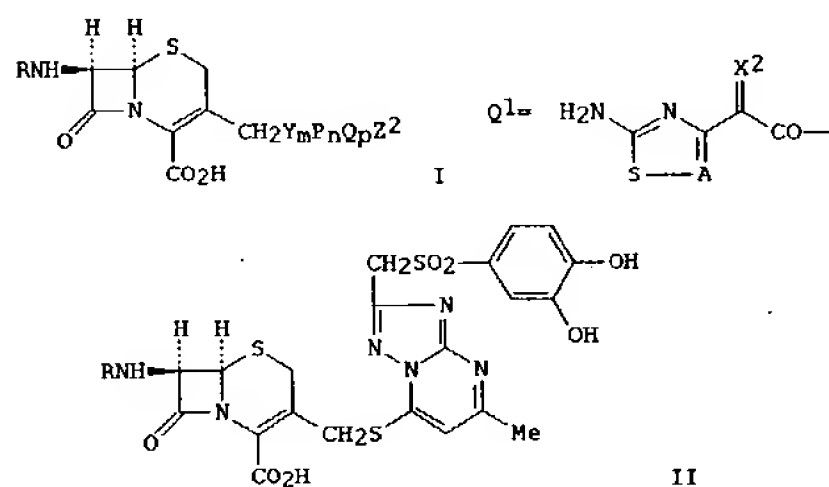
L9 ANSWER 566 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:603367 CAPLUS
 DOCUMENT NUMBER: 119:203367
 TITLE: Unexpected transformations of 4-azido-2-(2'-hydroxyphenyl)-5-(ethoxycarbonyl)pyrimidine: the formation of 4-hydroxyamino-2-(2'-hydroxyphenyl)-5-(ethoxycarbonyl)pyrimidine and ethyl 3-(2'-hydroxybenzoylamino)-2-(1''H-tetrazol-5''-yl)acrylate
 AUTHOR(S): Nikotalenkova, Elena B.; Vetchinov, Valerii P.; Mamatyuk, Victor I.; Krivopalov, Victor P.
 CORPORATE SOURCE: Novosibirsk Inst. Org. Chem., Novosibirsk, 630090, Russia
 SOURCE: Mendeleev Communications (1993), (2), 61-2
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



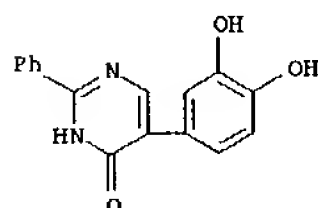
AB Title azidopyrimidine I (R = N3) undergoes a spontaneous solid-phase transformation in the dark into tetrazole II and (hydroxyamino)pyrimidine I (R = NHOH) at room temperature. Refluxing the azide in water afforded the hydroxylamine in good yield.
 IT 150537-08-9
 RL: RCT (Reactant); RACT (Reactant or reagent) (azidation or hydroxyamination of)
 RN 150537-08-9 CAPLUS
 CN 5-Pyrimidinecarboxylic acid, 4-chloro-2-(2-hydroxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)



L9 ANSWER 567 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



AB Title compds. [I: R = thiazolyloximinoacetyl group; Q1: A = N, CH; X2 = NOXZ1; P = (substituted N-containing heterocyclyene; Q = alkylene, phenylene, SOO-2, CO, etc.; X = alkylene, phenylene, etc.; Y = O, OCH2, SOO-2, etc.; Z1, Z2 = (substituted) (hetero)aromatic; m, n, p = 0 or 1] were prepared. Thus, 2-chloromethyl-5-methyl-5-triazolo[1,5-a]pyrimidin-7-ol was condensed with Li 2,2-diphenyl-1,3-benzodioxole-5-sulfinate (preparation given) and the sulfated product condensed with 7-aminocephalosporanic acid to give title compound II (R = H) which was condensed with 2-(2-amino-4-thiazolyl)thioglyoxylic acid 5-(2-benzothiazolyl) ester to give III (R = Q1, A = CH) (III; X2 = O). The latter was condensed with H2NOCMe2CONHNHCOC6H4(OH)2-3,4 to give III Na salt [X2 = NOCMe2CONHNHCOC6H4(OH)2-3,4] which had ED50 of <0.5 and <0.01 mg/kg s.c. against Escherichia coli 25922 and Pseudomonas aeruginosa BA infections, resp., in mice.
 IT 150168-43-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, in preparation of antibiotic)
 RN 150168-43-7 CAPLUS
 CN 4(1H)-Pyrimidinone, 5-(3,4-dihydroxyphenyl)-2-phenyl-, monohydrobromide (9CI) (CA INDEX NAME)



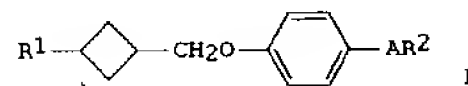
● HBr

L9 ANSWER 567 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:603234 CAPLUS
 DOCUMENT NUMBER: 119:203234
 TITLE: Preparation of (heterocyclylthio)desacetyloxycephalosporinates as antibiotics
 INVENTOR(S): Angehrn, Peter; Furlanmeier, Andre; Hebeisen, Paul; Hofheinz, Werner; Link, Helmut
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., AG, Switz.
 SOURCE: Eur. Pat. Appl., 70 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

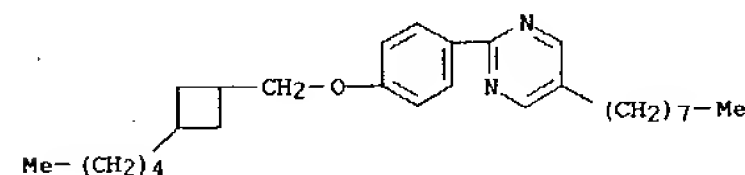
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------------------------------------------|------|----------|-------------------|----------|
| EP 544166 | A2 | 19930602 | EP 1992-119508 | 19921114 |
| EP 544166 | A3 | 19931103 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| ZA 9208961 | A | 19930526 | ZA 1992-8961 | 19921119 |
| CA 2083345 | AA | 19930527 | CA 1992-2083345 | 19921119 |
| AU 9228566 | A1 | 19930527 | AU 1992-28566 | 19921120 |
| AU 659513 | B2 | 19950518 | | |
| US 5438052 | A | 19950801 | US 1992-979519 | 19921120 |
| HU 62903 | A2 | 19930628 | HU 1992-3665 | 19921123 |
| NO 9204554 | A | 19930527 | NO 1992-4554 | 19921125 |
| BR 9204541 | A | 19930601 | BR 1992-4541 | 19921125 |
| CN 1072684 | A | 19930602 | CN 1992-113684 | 19921125 |
| JP 05255344 | A2 | 19931005 | JP 1992-337816 | 19921126 |
| JP 07088390 | B4 | 19950927 | | |
| PRIORITY APPLN. INFO.: | | | CH 1991-3463 | 19911126 |
| | | | CH 1991-3464 | 19911126 |
| | | | CH 1992-2787 | 19920904 |
| OTHER SOURCE(S): | | | MARPAT 119:203234 | |
| GI | | | | |

L9 ANSWER 568 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:591992 CAPLUS
 DOCUMENT NUMBER: 119:191992
 TITLE: Preparation of 5-alkyl-2-[4-(cyclobutylmethoxy)phenyl]pyridines or pyrimidines and liquid-crystal compositions containing them
 INVENTOR(S): Tsucha, Kazuhiko; Kawaguchi, Megumi; Suzuki, Kenji; Sugiura, Atsushi; Fujii, Tsunenori
 PATENT ASSIGNEE(S): Kanto Kagaku, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 05078320 | A2 | 19930330 | JP 1991-354088 | 19911118 |
| PRIORITY APPLN. INFO.: | | | JP 1991-206592 | 19910416 |
| GI | | | | |



AB The title non-optically-active compds. I (R1 = H, C1-14 linear or branched alkyl; R2 = C1-14 linear or branched alkyl; A = 2,5-pyrimidinediyl, 2,5-pyridinediyl) and liquid-crystal compns. containing 21 non-optically-active I are claimed. I show smectic C liquid-crystal phase around room temperature, and are useful for components for ferroelec. chiral smectic C liquid-crystal compns. for display devices.
 IT 150309-19-6P
 RL: PREP (Preparation) (preparation of, as smectic C liquid crystal)
 RN 150309-19-6 CAPLUS
 CN Pyrimidine, 5-octyl-2-[4-[(3-pentylcyclobutyl)methoxy]phenyl]- (9CI) (CA INDEX NAME)



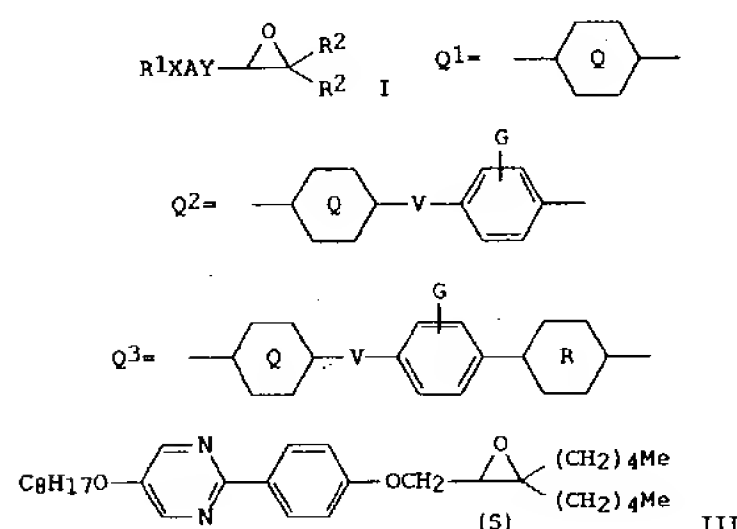
9/811, 359

097-835,523

L9 ANSWER 569 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1993:591988 CAPLUS
 DOCUMENT NUMBER: 119:191988
 TITLE: Preparation of optically active dialkyloxirane derivatives and liquid crystal compositions containing them
 INVENTOR(S): Ikemoto, Tetsuya; Kageyama, Yoshitaka; Terada, Fumiko; Nakaoka, Yuriko; Mori, Kenji
 PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05043566 | A2 | 19930223 | JP 1991-202109 | 19910813 |
| PRIORITY APPLN. INFO.: | | | JP 1991-202109 | 19910813 |
| OTHER SOURCE(S): | | MARPAT 119:191988 | | |

GI



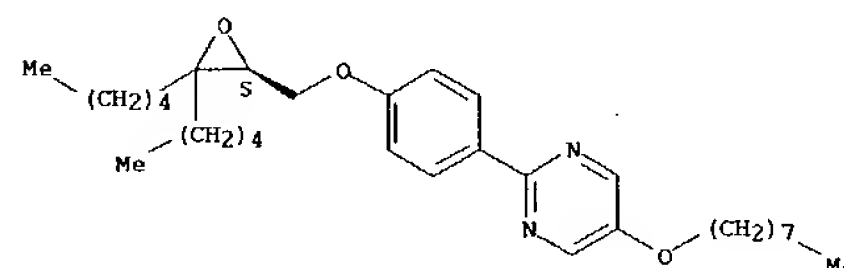
AB The title compds. [I; R1 = linear or branched C1-18 alkyl, alkenyl, or C1-12 alkoxy- C1-16 alkyl which optionally have ≥1 H's of each group substituted with halogens or may have an optically active group in an enantiomerically pure form or racemic form; R2 = linear or branched C1-18 alkyl; X = single bond, O2C, OCH2; Y = O2C, OCH2; A = Q1-Q3, etc.; ring Q = 1,6-naphthylene, 1,4-cyclohexylene, (Z-substituted) phenylene; ring R = phenylene, 2,5- or 5,2-pyrimidinediyl, 2,5- or 5,2-pyridinediyl, 1,4-cyclohexylene, 2,5-pyrazinediyl, 3,6-pyridazinediyl, each optionally substituted with Z; G, Z = H, F, Cl, cyano, Me, MeO, CF3; V = CH2, OCH2, CO2, O2C], which show excellent chemical stability, generally low m.p., and excellent compatibility, and induces a very large spontaneous

L9 ANSWER 569 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 polarization, enlarges spiral pitch, improves response speed, when added as a chiral dopant at a small amt. to form a ferroelec. liq. crystal compn., are prepd. Thus, Horner-Emmons reaction of (EtO2CCH2)P(O)(OEt)2 with undecanone in the presence of BuLi in hexane-THF at -10°, redn. of the resultant Et 3-pentyl-2-octenoate with (Me2CHCH2)2AlH in PhMe at -10° to 3-pentyl-2-octen-1-ol followed by Sharpless epoxidn. with Me3COX in the presence of (iso-PrO)4Ti and (+)-tartaric acid in CH2Cl2 at -25° to -20° for 3 days gave (2S)-3,3-dipentylglycidol (II) of 79% e.e. Esterification of II with 3,5-(O2N)C6H3COCl in pyridine-benzene followed by repeated crystn. from hexane-Et2O gave II 3,5-dinitrobenzoyl ester of 90% e.e. Sapon. of the ester with KOH in MeOH followed by purifn. on a silica gel column and Mitsunobu reaction with 2-(4-hydroxyphenyl)-5-octyloxypyrimidine in the presence of Ph3P and EtO2CN:CO2Et in benzene gave a glycidyl pyrimidinylphenyl ether (III). A ferroelec. liq. crystal compn. contg. 98 mol% 6 2-(p-alkoxyphenyl)-5-alkylpyrimidines and 2 mol% II showed chiral smectic C phase at .apprx. room temp. to 47°, response speed 202 μs, spontaneous polarization 1.2 nC/cm2, at 25°, and spiral pitch of the chiral nematic phase 26 μm at 63°.

IT 150389-25-6
 RI: TEM (Technical or engineered material use); USRS (Uses) (liquid crystal composition, for display)
 RN 150389-25-6 CAPLUS
 CN Pyrimidine, 2-[4-(decyloxy)phenyl]-5-octyl-, mixt. with (S)-2-[4-[(3,3-dipentylloxiranyl)methoxy]phenyl]-5-(octyloxy)pyrimidine, 5-heptyl-2-[4-(heptyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(nonyloxy)phenyl]pyrimidine, 5-heptyl-2-[4-(octyloxy)phenyl]pyrimidine, 2-[4-(hexyloxy)phenyl]-5-nonylpyrimidine and 5-octyl-2-[4-(octyloxy)phenyl]pyrimidine (9Ci) (CA INDEX NAME)

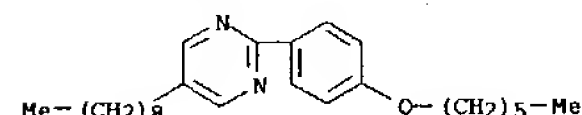
CM 1
 CRN 150279-16-6
 CMF C31 H48 N2 O3

Absolute stereochemistry.

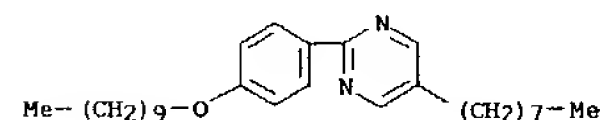


CM 2
 CRN 57202-56-9
 CMF C25 H38 N2 O

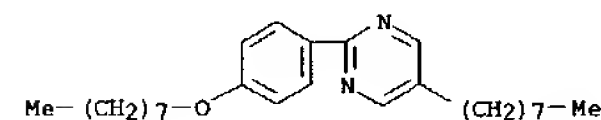
L9 ANSWER 569 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)



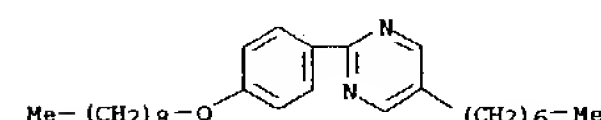
CM 3
 CRN 57202-52-5
 CMF C28 H44 N2 O



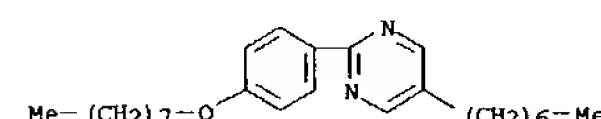
CM 4
 CRN 57202-50-3
 CMF C26 H40 N2 O



CM 5
 CRN 57202-40-1
 CMF C26 H40 N2 O



CM 6
 CRN 57202-39-8
 CMF C25 H38 N2 O



CM 7

L9 ANSWER 569 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

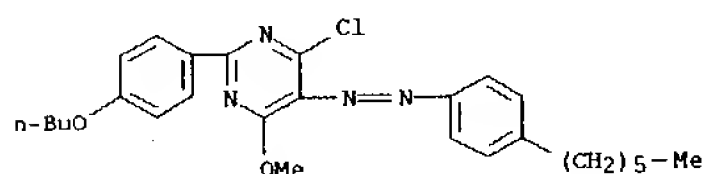
CRN 57202-38-7
 CMF C24 H36 N2 O



9/811,359

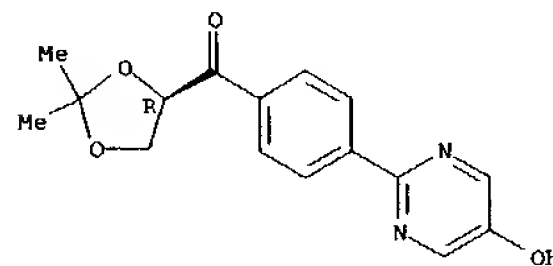
09/835,523

L9 ANSWER 570 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:582837 CAPLUS
DOCUMENT NUMBER: 119:182837
TITLE: Arylazopyrimidines as dichroic dyes for liquid crystals
AUTHOR(S): Mikhaleva, M. A.; Igonina, G. A.; Lazareva, V. T.; Rumyantsev, V. G.; Mamaev, V. P.
CORPORATE SOURCE: Novosib. Inst. Org. Khim., Novosibirsk, 630090, Russia
SOURCE: Khimiya Geterotsiklicheskih Soedinenii (1993), (2), 209-14
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Substituted 5- and 2-(arylamino)pyrimidines were synthesized and studied for potential application as dichroic dyes with pos. dichroism for color liquid-crystal. optical imaging devices. Absorption spectra (λ_{\max} = 368-474 nm) and order parameters (S = 0.38-0.71) were determined for 8 dyes. A dye with optimum properties (S = 0.71, λ_{\max} = 474 nm) is prepared by 2-[4-(hexyloxy)phenyl]-5-aminopyrimidine condensation with 1-(dimethylamino)-4-nitrosobenzene in superbasic medium.
IT 150563-33-0P
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and characterization of, as potential dichroic dye for color liquid-crystal. optical imaging devices)
RN 150563-33-0 CAPLUS
CN Pyrimidine, 2-(4-butoxyphenyl)-4-chloro-5-[(4-hexylphenyl)azo]-6-methoxy- (9CI) (CA INDEX NAME)



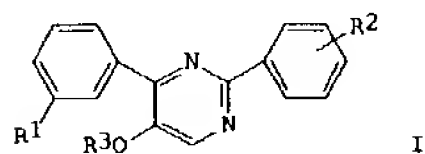
L9 ANSWER 571 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:571472 CAPLUS
DOCUMENT NUMBER: 119:171472
TITLE: Dielectric and electrooptic properties of a switchable ferroelectric liquid crystalline side chain polymer
AUTHOR(S): Pfeiffer, M.; Beresnev, L. A.; Haase, W.; Scherowsky, G.; Kuehnast, K.; Jungbauer, D.
CORPORATE SOURCE: Inst. Phys. Chem., Tech. Hochsch. Darmstadt, Darmstadt, D-6100, Germany
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1992), 214, 125-41
CODEN: MCLCE9; ISSN: 1058-725X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For a switchable ferroelec. liquid crystalline (FLC) side chain polymer the dielec. spectra for both SmC* and SmA* phases and the temperature dependences of the relaxation frequencies are obtained. Only soft and mol. modes take place at 101-107 Hz. No Goldstone mode was observed. The low frequency (.apprx.102 Hz) of the soft mode in polymeric ferroelec. liquid crystals is discussed in terms of a sharp rise of rotational viscosity with increasing mol. weight of FLC mols. Results of the electrooptical measurements (tilt angle and response time) are reported. The optical tilt angle varies from zero up to .apprx.25° in the SmC* phase. The switching time increases with decreasing temperature from a min. of .apprx.1 ms. A short description of the chemical synthesis is also given.
IT 150224-13-8
RL: PRP (Properties) (intermediate, in synthesis of ferroelec. liquid crystalline polymer)
RN 150224-13-8 CAPLUS
CN Methanone, (2,2-dimethyl-1,3-dioxolan-4-yl)[4-(5-hydroxy-2-pyrimidinyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



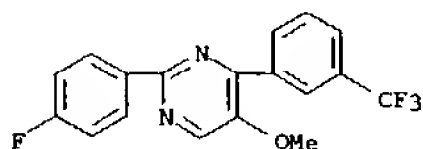
L9 ANSWER 572 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:511306 CAPLUS
DOCUMENT NUMBER: 119:111306
TITLE: Synergistic herbicides containing photosynthesis-inhibiting herbicides and diphenylpyrimidines.
INVENTOR(S): Shibata, Hideyuki; Ikushima, Shinsuke
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|-------------------|-----------------|----------|
| JP 05117116 | A2 | 19930514 | JP 1991-279591 | 19911025 |
| PRIORITY APPLN. INFO.: | | | JP 1991-279591 | 19911025 |
| OTHER SOURCE(S): | | MARPAT 119:111306 | | |
| GI | | | | |



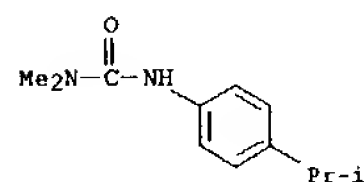
AB Herbicides, which have broad spectrum, contain photosynthesis-inhibiting herbicides (triazines or ureas) and diphenylpyrimidines I (R1 = CF3O, CF3; R2 = m- or p-CF3 or halo; R3 = Cl-2 alkyl) as active ingredients. Simultaneously application of I (R1 = CF3O, R2 = p-CF3, R3 = Me) (II) and atrazine, at 100 and 500 g/ha, resp., showed 100% control of Abutilon avicene and Pharbitis nil without damaging corn, vs. much less activity, for II and atrazine themselves. II 8, atrazine 40, Ca ligninsulfonate 3, Na lauryl sulfate 2, and silica 47 parts were mixed to give a wettable powder.
IT 151582-14-8
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses) (herbicide, synergistic, broad-spectrum)
RN 151582-14-8 CAPLUS
CN Urea, N,N-dimethyl-N'-[4-(1-methylethyl)phenyl]-, mixt. with 2-(4-fluorophenyl)-5-methoxy-4-[3-(trifluoromethyl)phenyl]pyrimidine (9CI) (CA INDEX NAME)

CM 1
CRN 128305-92-0
CMF C18 H12 F4 N2 O



L9 ANSWER 572 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)

CM 2
CRN 34123-59-6
CMF C12 H18 N2 O



9/811,359

09/835,523

L9 ANSWER 573 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1949:6486 CAPLUS

DOCUMENT NUMBER: 43:6486

ORIGINAL REFERENCE NO.: 43:1424b-g

TITLE: Pyrimidine. III. Study of the bromination of

5-acetyl-4-methyl-2-phenylpyrimidine

AUTHOR(S): Clarke, Ray A.; Graham, Bruce; Christensen, Bert E.

SOURCE: Journal of the American Chemical Society (1948), 70,

1088-90

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE:

LANGUAGE: Unavailable

AB Cf. C.A. 42, 6366h. 5-Acetyl-4-methyl-2-phenylpyrimidine (11.5 g. in CHCl₃) with 2.8 mL. Br under UV light gave 92% of an isomeric mixture containing the HBr salt of 5-acetyl-4-(bromomethyl)-2-phenylpyrimidine (I). I was isolated by shaking the HBr salt with aqueous CHCl₃ to remove HBr and washing the residue with hot petr. ether (b. 36-65°). Recrystn. of the residue from ligroin (b. 97-140°) gave I, m. 168-70°. Alternatively, the crude bromination product was recrystd. directly from iso-PrOH. I (1 g. in 20 mL. of dioxane) with NaOBr gave 0.48 g. 4-(bromomethyl)-2-phenyl-5-pyrimidinecarboxylic acid (II). II (0.66 g. in an equimolar amount of dilute NaOH) refluxed with 1.19 g. KMnO₄ in 60 mL. H₂O 1.5 h. gave 0.32 g. 2-phenyl-4,5-pyrimidine-dicarboxylic acid, m. 279-81°. I (0.3 g. in 5 mL. of warm benzene) treated sep. with twice the mol. quantity of the appropriate secondary amine gave, resp., 5-acetyl-4-(dimethylaminomethyl)-2-phenylpyrimidine-HCl (III) (63%), m. 236° (decomposition), white crystals from absolute EtOH; 5-acetyl-4-(4-morpholinylmethyl)-2-phenylpyrimidine-HCl (IV) (84%), m. 220° (decomposition), needles from N HCl, and 5-acetyl-4-(2-diethylaminomethyl)-2-phenylpyrimidine (V) (95%, based on crude product), m. 215-220° (decomposition) (from absolute EtOH). III, IV, and V (2-2.5 g. dissolved sep. in 100 mL. MeOH), catalytically reduced under pressure, filtered, and finally evaporated to dryness, gave, resp., 4-(dimethylaminomethyl)-5-(1-hydroxyethyl)-2-phenylpyrimidine-HCl (75%), m. 236-37° (from absolute EtOH by adding dry Et₂O); 5-(1-hydroxyethyl)-4-(4-morpholinylmethyl)-2-phenylpyrimidine-HCl (VI) (42%), m. 230-32° (from absolute EtOH by adding dry Et₂O), and 4-(diethylaminomethyl)-5-(hydroxyethyl)-2-phenylpyrimidine-HCl (71%), m. 185-87° (from absolute EtOH by adding dry Et₂O). VI.HCl was insol. in MeOH, and hence was reduced as the free base, and then converted to the HCl salt. IV (0.5 g. suspended in 5 mL. of dioxane) was treated with a solution of NaOBr, diluted after 15 min. with 40 mL. H₂O, extracted with Et₂O, the excess NaOBr reduced with NaHSO₃, and the solution acidified with concentrated HCl, whereupon 0.24 g. 5-carboxy-4-(4-morpholinylmethyl)-2-phenylpyrimidine-HCl precipitated as a tan-colored solid, which was recrystd. from iso-PrOH containing dry HCl.

IT 651360-16-6, Ketone, 4-(bromomethyl)-2-phenyl-5-pyrimidinyl

methyl, hydrobromide

(preparation of)

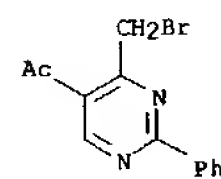
RN 651360-16-6 CAPLUS

CN Ketone, 4-(bromomethyl)-2-phenyl-5-pyrimidinyl methyl, hydrobromide (SCI)

(CA INDEX NAME)

L9 ANSWER 573 OF 573 CAPLUS COPYRIGHT 2004 ACS on STN

(Continued)



● HBr